

A revision of some West Palaearctic species of *Scopaeus* Erichson (Coleoptera, Staphylinidae, Paederinae)

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A revision of some West Palaearctic species of *Scopaeus* Erichson (Coleoptera, Staphylinidae, Paederinae). - Four new species are described: *S. illyricus* sp. n. from Albania, *S. loebli* sp. n. from Turkey, *S. haemusensis* sp. n. from Bulgaria and *S. cyprius* sp. n. from Cyprus. Additional 11 species are redefined, and 11 species names synonymized: *Scopaeus lemnicus* Coiffait, *S. turcicus* Coiffait, *S. ectypus* Coiffait syn. n. = *S. camenoni* Coiffait. *S. maderae* Coiffait syn. n. = *S. subopacus* Wollaston. *S. portai temperei* Coiffait, *S. portai lusitanicus* Coiffait, *S. portai marocanus* Coiffait syn. n. = *S. portai* Luze. *S. bulgaricus* Coiffait syn. n. = *S. gladifer* Binaghi. *S. bicolor kochi* Binaghi, *S. remsensis* Coiffait syn. n. = *S. signifer* Fauvel. *S. gredensis* Coiffait syn. n. = *S. hispanicus* Binaghi. *Scopaeus chalcodactylus* (Kolenati), considered a synonym of *S. minutus* Erichson, is revalidated. Lectotypes are designated for *S. cognatus* Mulsant & Rey, *S. chalcodactylus* (Kolenati), *S. minutus* Erichson, *S. minutus* var. *debilis* Mulsant & Rey, *S. minutus* var. *intermedius* Mulsant & Rey, *S. portai* Luze, *S. pusillus* Kiesenwetter, *S. signifer* Fauvel and *S. sulcicollis* Stephens.

Key-words: Staphylinidae - Paederinae - *Scopaeus* - West Palaearctic Region - taxonomy.

INTRODUCTION

Scopaeus Erichson constitutes likely the most speciose genus of the Paederines. The group is distributed throughout the tropics, subtropics and the temperate zones with about 400 described species, of which almost 80 are from the West Palaearctic Region. Judging from material examined, numerous additional species remain undescribed. Within the subtribe Scopaeina the *Scopaeus* is distinguished by a four-toothed labrum (e.g. COIFFAIT 1982, 1984) but its phylogenetic relationships are unknown. Members of *Scopaeus* are encountered mainly on damp, denuded grounds like banks and shorelands. Although they are often common the knowledge of the specific ecological requirements is as poor as the level of taxonomic treatment. Many descriptions lack

diagnostic characters, or are incorrect. Presently, it is impossible to identify many species without a previous study of the respective type material, and a large amount of distributional data are consequently ill-based.

In order to give a more solid basis of the taxonomy and to precise the distribution pattern of the West Palaearctic species of *Scopaeus*, the author revised the relevant type material and other significant collections. Thus, the present paper is a further contribution on a revisional study of the West Palaearctic *Scopaeus* (FRISCH 1994, 1996). It gives definitions of 15 species, four of which are new, and establishes 11 new synonymies. Thus, the number of valid species occurring in the West Palaearctic (sensu COIFFAIT 1984) is reduced to 77.

METHODS

The subgenera in *Scopaeus* do not represent monophyletic groups (FRISCH 1996) and are not accepted in the present paper. The puncturation and reticulation of the body are often variable within species and of little taxonomic use. Unlike the older works, these characters are not or little used.

The terminology of the aedeagus and the genital sclerites follows FRISCH (1994, 1996) and UHLIG (1989). The fine primary setae are omitted in the drawings of sternites 8 in male. The spermatheca is composed of two different parts (FRISCH 1996). The 'chamber' refers to the hollow one from which the sclerotized ductus arises; the 'process' is used for the solid one. The abdominal sternites and tergites are counted from the first morphological segment.

Measurements and ratios are defined as follows: length = interval from the apical margin of the mandibles to the end of the abdomen; forebody length = interval from the apical margin of the mandibles to the sutural margin of the elytra; length of head = interval from the apical margin of the clypeus to the posterior margin; HLW = head length : head width; PLW = pronotal length : pronotal width; HPW = width of head : pronotal width; HPL = length of head : pronotal length; PSL = pronotal length : elytral sutural length (excluding scutellum); PLL = pronotal length : elytral lateral length; ELW = elytral lateral length : elytral width; ET = eyes length : temporal length (both measured laterally); MT = mesotibial length : mesotibial width; A = length (measured without the basal and distal tapering) : width of the antennal segments 1–11; T = length : width of the central area (between sclerite margins) of the tergite 10; V = length : width of the central area of the female valve. When possible, the ratios are based on ten specimens at least, representing both sexes and exhibiting maximum variation range in size and form.

MATERIAL EXAMINED

All material mentioned was examined, unless otherwise specified. Details are given only for type material. Records are listed alphabetically, followed by acronyms of the collections in which the respective material is housed.

- ASC = coll. A. Schmidt, Wetzlar
 BKCB = coll. C. Brandstetter & coll. A. Kapp, Bürs
 BMNH = The Natural History Museum, London
 CMCB = coll. C. Morkel, Butzbach
 DEIC = Deutsches Entomologisches Institut, Eberswalde
 SMFD = Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt am Main
 HTCO = coll. H. Terlutter, Osnabrück
 ISNB = Institut Royal des Sciences Naturelles de Belgique, Brussel
 JFCG = coll. J. Frisch, Gießen
 JHUG = Steiermärkisches Landesmuseum Joanneum, Graz
 MCSN = Museo Civico di Storia Naturale "Giacomo Doria", Genova
 MHNL = Musée Guimet d'histoire naturelle, Lyon
 MHNG = Muséum d'histoire naturelle, Genève
 MNHN = Muséum National d'Histoire Naturelle, Paris
 MMBC = Musée de Brou, Bourg-en-Bresse
 MSCB = coll. M. Schülke, Berlin
 NMPC = Národní Muzeum, Prague
 NHMB = Naturhistorisches Museum, Basel
 NHMW = Naturhistorisches Museum, Wien
 SMTD = Staatliches Museum für Tierkunde, Dresden
 SNMC = Slovenské národné múzeum, Bratislava
 HNHM = Hungarian Natural History Museum, Budapest
 VACH = coll. V. Assing, Hannover
 VGCB = coll. V. Gollkowsky, Berlin
 ZMAL = Zoological Museum, Academy of Sciences, St. Petersburg
 ZMHB = Museum für Naturkunde, Berlin
 MZLU = Zoological Museum, Lund
 ZSMC = Zoologische Staatssammlung, München

TAXONOMY

Scopaeus cameroni Coiffait

(Figs 1–3, 46, 61–66)

- Scopaeus (Hyposcopaeus) cameroni* Coiffait, 1968: 422. Holotype ♂, Turkey: Beikos, Cameron (BMNH); examined.
Scopaeus (Hyposcopaeus) lemnicus Coiffait, 1968: 421. Holotype ♂, Greece: Lemnos, Cameron (BMNH); examined. **Syn. n.**
Scopaeus (Hyposcopaeus) turcicus Coiffait, 1968: 423. Holotype ♂, Turkey: Ankara, 08.08.1960, Coiffait (MNHN); examined. **Syn. n.**
Scopaeus (Hyposcopaeus) ectypus Coiffait, 1971: 285. Holotype ♂, Bulgaria: Madara, 15.10.1970, Coiffait (MNHN); examined. **Syn. n.**

Material examined (94 specimens). Bulgaria: holotype ♂ of *S. ectypus*, Madara (MNHN); Sliven (DEIC, JFCG, NHMW). Greece: holotype ♂ and 17 paratypes of *S. lemnicus*, Lemnos (BMNH); Chalcidici (VACH); Chios (JFCG); Ikaria (ZMHB). Romania: Mehedinti (NMPC). Turkey: holotype ♂ and paratype ♀ of *S. cameroni*, Beikos (BMNH); holotype ♂ of *S. turcicus*, Ankara (MNHN); Ankara; Cankiri (JFCG, NMPC); Izmir (MHNG, ZMHB).

Description. Length 2.9–3.2 mm; forebody 1.5–1.8 mm. Body uniformly brown, abdomen blackish. Appendages light brown. Tempora slightly widened, posterior margin of head weakly concave. Eyes length slightly longer than half of temporal length. Elytra about 1.25 as long as pronotum, along suture about 1.1 times as long as pronotum. Metathoracic wings fully developed. Protarsomeres 1–4 in both sexes more than twice as wide as long. Mesotibia slender. Laterotergite 9 (fig. 61) with a very

obtuse dorsal tooth. Sternite 8 in male (fig. 46) with a V-shaped emargination in distal third. Shape of aedeagus (figs 1-3) as in *S. armeniacus* subgroup (FRISCH 1994). Apical lobes each ventrally extended to form a slender, reversely hook-shaped spiny process, their ventral edges straight. Ventral endophallic spine curved to right in ventral view. Spermatheca (figs 64-66) large, mostly narrow, chamber triangular.

Ratios. HLW 1.08-1.11; PLW 1.13-1.19; HPW 1.09-1.16; HPL 1.0-1.08; PSL 0.88-0.97; PLL 0.7-0.78; ELW 1.2-1.28; ET 0.54-0.61; MT 5.75; A 2.2, 1.4, 1.1, 1.0, 0.9, 0.9, 0.9, 0.9, 0.9, 0.8, 1.6; T 1.7; V (♀) 5.1.

D i s t r i b u t i o n . The distribution ranges from the South Carpathians over the East Balkans and North-East Greece to West Anatolia (eastwards to Ankara) and the neighbouring Aegean islands. *Scopaeus cameroni* is known from a line east of Orsova (west of Romania) – Lemnos – Chios – Ikaria (Southern Sporades). Judging from material of the closely related species, *S. cameroni* seems to be replaced by *S. creticus* Frisch on the Aegean Cyclades and on Crete, by *S. schusteri* Scheerpeltz on Rhodes, by *S. puthzi* Frisch in South Greece and by *S. fagelianus* Coiffait in South Anatolia.

C o m m e n t s . The aedeagus of the holotype of *S. cameroni* is lost. According to COIFFAIT (1968), the description of *S. lemnicus* is based on four ♂ and twelve ♀ deposited in the Cameron collection (BMNH). In fact, two additional ♀ labelled as paratypes are in the Coiffait collection (MNHN). *Scopaeus cameroni* appears to be closely related to *S. illyricus* from Albania, described below, and to *S. armeniacus* from the Caucasus region, which share a similar shape of the apical lobes of the aedeagus.

Scopaeus illyricus sp. n.

(Figs 4-6)

Material examined. Holotype ♂, Albania: Elbasan, Mader (NHMW). Paratypes. Greece: 1 ♂, 1 ♀, Corfu, Paganetti (SMTD).

D e s c r i p t i o n . Length 3.3 mm; forebody 1.6 mm. *Scopaeus illyricus* does not differ from *S. cameroni* by external characters, but is distinguished by shape of the aedeagus (figs 4-6). Apical lobes each extended to form a slender, hook-shaped spine, which is less curved backwards than in *S. cameroni*. Ventral margin of apical lobes not straight but concave distally.

Ratios. HLW 1.1; PLW 1.18; HPW 1.11; HPL 1.03; PSL 0.94; PLL 0.76; ELW 1.21; ET 0.54; MT 5.4; A 2.3, 1.4, 1.2, 1.1, 1.0, 1.0, 1.0, 0.9, 0.9, 0.8, 1.6.

C o m m e n t s . The aedeagal characters (Figs 4-6) are similar to those in *S. cameroni* (Figs 1-3) and fit those of the *S. armeniacus* subgroup as defined in FRISCH (1994).

Scopaeus cyprius sp. n.

(Figs 7-9, 47, 67-70)

Material examined. Holotype ♂, Cyprus: Troodos Mts., Agios Mamas, 450 m, 18.03.1996, collected on a very narrow, sandy bank of a small stream, Frisch (MHNG). Paratypes. 3 ♂, 8 ♀, same data as holotype, Frisch, Morkel (JFCG, CMCB).

Description. Length 3.0–3.1 mm; forebody 1.6 mm. Body uniformly light reddish brown, head in front of eyes slightly darker, abdomen blackish. Tempora weakly widened, head with a straight posterior margin. Eyes length almost half of temporal length. Elytra only 1.1 times as long as pronotum, along suture slightly shorter than pronotum. Metathoracic wings fully developed. Protarsomeres 1–4 in both sexes more than twice as wide as long. Mesotibia slender. Antennae relatively slender, segments 1–8 longer than wide, segment 10 slightly transverse. Laterotergite 9 (fig. 67) with a wave-like dorsal dilatation. Distal quarter of sternite 8 in male (fig. 47) with a V-shaped emargination. Aedeagus (figs 7–9) as in *S. elegans* group (Frisch 1994). Apical lobes narrow and parallel in lateral view, apically enlarged and rounded in dorsal view. Dorsal lobe slender, extended into a long acute spine projecting from ventral margins of apical lobes. Ventral endophallic spine hardly projecting and orientated in longitudinal direction. Phallobase with two lateral groups of minute setae. Spermatheca (fig. 70) variable in shape, with capsule and process narrow.

Ratios. HLW 1.14–1.16; PLW 1.21–1.27; HPW 1.1–1.12; HPL 1.0–1.03; PSL 1.05–1.08; PLL 0.87–0.9; ELW 1.17–1.25; ET 0.52–0.56; MT 5.6; A 2.2, 1.4, 1.5, 1.5, 1.4, 1.3, 1.1, 1.1, 1.0, 0.9, 1.4; T 2.2; V (♀) 4.6.

Comments. *Scopaeus cyprius* is a member of the *S. elegans* group (FRISCH 1994), but is unique in having the apically undivided and ventrally unspined dorsal lobe of the aedeagus.

***Scopaeus haemusensis* sp. n.**

(Figs 10–12, 48, 71, 74, 75, 80)

Material examined. Holotype ♂, Bulgaria: Maglige, 07.–08.1912, Hilf (NHMW). Paratypes. 41 ♂, 58 ♀, same data as holotype (JFCG, MHNG, NHMW); 5 ♂, Kröstilea (SMTD).

Description. Length 3.0–3.3 mm; forebody 1.7–1.9 mm. Body uniformly dark brown, abdomen blackish. Elytra in apical half and along suture lightened. Appendages brown. Head widest above slightly enlarged tempora, with posterior margin straight or weakly concave. Eyes length slightly more than half of temporal length. Elytra about 1.25 times as long as pronotum, along suture slightly shorter than pronotum. Metathoracic wings fully developed. Protarsomeres 1–4 in both sexes more than twice as wide as long. Mesotibia slender. Dorsal margin of laterotergite 9 (fig. 71) enlarged and sinuate. Sternite 8 in male (fig. 48) with a V-shaped emargination for apical third. Aedeagus (figs 10–12) with characters as in *S. heinzi* subgroup (FRISCH 1994). Ventral margins of lateral lobes regularly rounded with rows of short setae. Dorsal lobe broad and parallel in dorsal view, ventrally extended to form a hook-shaped, acute spine both in middle and at apex. Ventral endophallic spine orientated longitudinally and curved dorsally to apical lobes. Phallobase on both sides with a small group of minute setae. Chamber of spermatheca (fig. 80) triangular, process slender and gradually enlarged.

Ratios. HLW 1.04–1.11; PLW 1.12–1.21; HPW 1.09–1.14; HPL 1.0–1.08; PSL 0.87–0.96; PLL 0.71–0.79; ELW 1.18–1.29; ET 0.57–0.64; MT 5.78–6.38; A 2.4, 1.4, 1.3, 1.1, 1.1, 1.1, 1.0, 0.9, 0.9, 0.9, 1.8; T 1.7; V (♀) 5.0.

C o m m e n t s . I am unable to locate the Bulgarian type-locality "Kröstilea". *Scopaeus haemusensis* may be placed in the *S. heinzi* subgroup of the *S. elegans* group (FRISCH 1994). It shares the narrow, two-spined dorsal lobe of the aedeagus with *S. heinzi* Korge from South-East Anatolia. *Scopaeus haemusensis* appears to be also very close to *S. graecus* Frisch occurring in Greece and ex-Yugoslavia up to Dalmatia. *Scopaeus graecus* is very similar in external characters but may be easily distinguished by the three-spined dorsal lobe of the aedeagus.

Scopaeus pusillus Kiesenwetter

(Figs 16–18, 50, 73, 78, 79, 82)

Scopaeus pusillus Kiesenwetter, 1834: 309. Lectotype ♂, Germany: Saxony (DEIC); here designated (examined).

Scopaeus (Polyodontus) pusillus; BINAGHI 1935: 104.

Scopaeus (Euscopaeus) pusillus; COIFFAIT 1960: 285.

Scopaeus (Alloscopaeus) pusillus; COIFFAIT 1968: 405.

Scopaeus sulcicollis var. *pusillus*; FAUVEL 1872: 29.

Scopaeus (Polyodontus) sulcicollis var. *pusillus*; GANGLBAUER 1895: 530.

Scopaeus minutus var. *pusillus*; EVERTS 1898: 311.

Scopaeus abbreviatus Mulsant & Rey, 1854: 177; 1855: 65; synonymised with *S. pusillus* by KRAATZ 1857: 708.

Material examined (892 specimens). Albania (NHMW, ZMHB). Austria: Carinthia (MHNG, NHMW, ZSMC); Burgenland (NHMW, VACH); Lower Austria (MHNG, NHMW); Styria (JHUG); Tyrol (BKCB, NHMW, VGCB); Upper Austria (NHMW); Vienna (MZLU, NHMW); Vorarlberg (BKCB, NHMW, VGCB, ZMHB). Bosnia-Herzegovina (DEIC, HNHM, MHNG, NHMW, SMTD, ZMHB). Bulgaria: Burgas; Rumelia (NMPC); Samokov (DEIC); Sofia (NMPC). Croatia (DEIC, NHMW, ZMHB). Czech Republic: Jihočeský Kraj (NMPC); Prague (NHMW). France: Haut-Rhin (MHNG); Haute Savoie (MHNG); Pyrénées (NHMW); Savoie (BMNH). Germany: lectotype ♂ of *S. pusillus*, Saxony (DEIC); Baden-Württemberg (NHMW, ZSMC); Bavaria (ZMHB, ZSMC); Brandenburg (ZMHB, ZSMC); Hesse (DEIC); Lower Saxony (MHNG, VACH); Saxony (SMTD); Thuringia (SMTD, ZMHB). Greece: Attica; Chalcidici (NHMW, VACH); Corfu (DEIC, NHMW, SMTD, ZMHB); Epirus (NHMW); Giona (JFCG); Levkas; Naxos (NHMW); Parnassus (JFCG, NHMW); Peloponnese (JFCG, NMPC); Taygetos (JFCG, NHMW); Thessalia (MHNG, NHMW). Hungary: Budapest (HNHM, ZMHB); Csongrad; Heves; Pest; Somogy (HNHM). Italy: Friuli-Venezia Giulia (MHNG); Liguria (MHNG, NHMW, SMTD, ZMHB); Lombardia (MHNG, NHMW, ZMHB); Piemonte (MHNG, NHMW, SMTD, ZMHB); Toscana (DEIC, MHNG, NHMW, ZMHB); Trentino-Alto Adige (ZMHB); Veneto (MHNG, NHMW, SMTD, ZMHB). Liechtenstein (BKCB, VACH). Macedonia (ZMHB). Poland: Silesia (ZMHB). Romania: Mehedinti (HNHM); Sibiu (NMPC); Timis (MHNG). Russia: Altai Mts.; Lake Baikal (ZMHB). Slovenia (NHMW, NMPC). Switzerland: Graubünden; Ticino (NHMB). Sweden: Kalmar Län (MZLU). Turkey: Camlidere (NMPC); Izmir; Kastamonu; Sinop (NHMW). Yugoslavia: Serbia (NHMW, ZMHB).

Description. Length 2.8–3.4 mm; forebody 1.5–1.8 mm. Body brown to dark brown, elytra slightly darker, abdomen blackish. Appendages light yellowish-brown. Puncturation on elytra dense and relatively coarse. Tempora distinctly enlarged, posterior margin of head slightly concave. Eyes half or almost half length of tempora. Elytra usually about 1.1 times as long as pronotum, along suture up to 0.2 times shorter than pronotum. Specimens with elytra 1.25 times as long as pronotum are known from Greece (NHMW). Metathoracic wings fully developed. Protarsomeres

1–4 in both sexes twice as wide as long. Mesotibia notably thickened, about five times longer than wide. Dorsal margin of laterotergite 9 smooth (fig. 73). Tergite 10 (fig. 78) parallel-sided. Sternite 8 in male (fig. 50) with a triangular emargination in distal fifth. Apical lobes of aedeagus (figs 16–18) each extended to form a slender, right-angled, dorsal spiny process, ventral margins of apical lobes each with a very deep, narrow, oblique incision. Dorsal lobe short, divided apically and extended terminally into two ventral processes. Ventral endophallic process discoid in lateral view. Lateral lobes well developed, each bearing an apical group of long setae and some very short ventral setae. Spermatheca (fig. 82) with narrow, slightly curved capsule and process.

Ratios. HLW 1.06–1.16; PLW 1.19–1.27; HPW 1.08–1.2; HPL 0.98–1.05; PSL 0.97–1.25; PLL 0.77–0.98; ELW 1.12–1.21; ET 0.44–0.51; MT 4.6–5.63; A 2.2, 1.4, 1.2, 1.0, 1.0, 1.0, 1.0, 0.9, 0.9, 0.8, 1.6; T 2.1; V (♀) 5.8.

D i s t r i b u t i o n . *Scopaeus pusillus* is a widespread species. It is known from most parts of the West Palaearctic area and from Altai and Baikal, but is absent from North Africa, the Iberian Peninsula, the Caucasus and the Middle East. *Scopaeus pusillus* has been recorded from southern Fennoscandia (LINDROTH 1960; PALM 1963; HORION 1965), and specimens from South Sweden (Östergötland) have been examined by the author. The record for the British Isles (COIFFAIT 1984) is doubtful, as British authors have not recorded that species. BRAKMAN (1966) recorded the species from the Netherlands. *Scopaeus pusillus* is common on the Balkans reaching the Peloponnese and the Aegean islands. In Italy it is known southwards to the Perugia region in the Central Apennine Mountains (BINAGHI 1935). On the Iberian Peninsula *S. pusillus* is replaced by *S. pusilloides* (FRISCH 1997), which has been misidentified and recorded as *S. pusillus* from Madrid by OUTERELO (1981). The available data from Anatolia indicate a distribution throughout the northwest up to Kastamonu. Records from the Caucasus (BINAGHI 1935; COIFFAIT 1968, 1984; HORION 1965) refer to *S. chalcodactylus*. Thus, BOHÁČ (1985a, b) characterizes incorrectly *S. pusillus* as an Euro-Caucasian species.

B i o n o m i c s . *Scopaeus pusillus* is a thermo-hygrophilous inhabitant of banks obviously distinguished from most *Scopaeus* species in that it also inhabits dry areas. BOHÁČ (1985a, b), HORION (1965) and KOCH (1989) consider *S. pusillus* a xerothermophilous species inhabiting mainly dry hillsides, meadows or man-made sites such as gravel pits and brickworks. BOHÁČ (1985a) considers the species typical for extremely dry forest-steppe habitats. The author collected *S. pusillus* repeatedly below stones and in gravel on damp, stony shorelands and banks of rivers and small streams. Obviously it avoids very wet areas close to the water. The presumed myrmecophily of *S. pusillus* (HORION 1965; KOCH 1989) has not been confirmed since KIESENWETTER (1843), who recorded this species from nests of *Formica rufa* Linné.

C o m m e n t s . The original description is based on five specimens from Ober-Lausitz, Saxony. This material is absent from the Kiesenwetter collection (ZSMC). A specimen in the Kraatz collection (DEIC) bearing a label 'Saxon' handwritten by Kiesenwetter is obviously one of the syntypes and is designated here as lectotype.

KRAATZ (1858) mentions to have seen two female types of *S. pusillus* which are not traceable presently. Some authors (e.g. SCHEERPELTZ 1933) placed *S. pusillus* as an infraspecific form of *S. minutus* Erichson. FAUVEL (1872, 1873), GANGLBAUER (1895) and PORTEVIN (1929) had the same opinion, but have used the name *S. sulcicollis* (Stephens) for *S. minutus*. BINAGHI (1935) revalidated *S. pusillus* and described its aedeagus. The synonymy of *S. pusillus* and *S. abbreviatus* Mulsant & Rey was first recognized by KRAATZ (1857) and was accepted by most authors. EDMONDS (1932) misinterpreted *S. abbreviatus* and used that name for dark British specimens of *S. sulcicollis*. The type material of *S. abbreviatus*, which was described after specimens from the Guillebeau collection (MMBC), is not traceable in the Guillebeau collection and in the Rey collection (MHNL).

Scopaeus chalcodactylus (Kolenati) (Figs 13–15, 49, 72, 76, 77, 81)

Lathrobium chalcodactylus Kolenati, 1846: 23. Lectotype ♂, Azerbaijan: Berg-Karabach, Kolenati (ZMHB); here designated (examined).

Scopaeus chalcodactylus; KRAATZ 1857: 708; synonymised with *Scopaeus minutus*.

Material examined (21 specimens). Azerbaijan: lectotype ♂, Berg-Karabach (ZMHB). Armenia: paralectotype ♀ (ZMAL); (NHMW). Caucasus (DEIC, JFCG, NHMW, ZMHB); Araks Valley (NMPC). Russia: Crimea, Laila Mts. (NHMW).

Description. Similar to *S. pusillus* from which it differs as follows: Length 2.8–3.2 mm; forebody 1.6–1.7 mm. Body and appendages slightly lighter. Forebody usually uniformly brown or light brown, elytra rarely darker. Mesotibia slightly stouter. Dorsal margin of laterotergite 9 (fig. 72) slightly angled. Emargination of sternite 8 in male (fig. 49) somewhat wider. Apical lobes of aedeagus (figs 13–15) more parallel in dorsal view, each with notably broader dorsal spiny process (lateral view), their ventral incision broader and transversely orientated. Dorsal lobe more deeply divided at apex, ventral endophallic process shorter. Spermatheca (fig. 81) with capsule and process broader and stronger curved.

Ratios. HLW 1.05–1.14; PLW 1.16–1.23; HPW 1.09–1.13; HPL 1.0–1.03; PSL 1.08–1.18; PLL 0.86–0.94; ELW 1.08–1.17; ET 0.46–0.5; MT 4.36–5.0; A 2.4, 1.4, 1.5, 1.3, 1.0, 1.0, 0.9, 0.9, 0.9, 0.8, 1.4; T 2.0; V (♀) 5.7.

Distribution. Caucasus and Crimea where *S. chalcodactylus* appears to replace *S. pusillus*.

Comments. KRAATZ (1857) transferred the species from *Lathrobium* to *Scopaeus* and synonymised it with *S. minutus* Erichson. *Scopaeus pusillus* and *S. chalcodactylus* form a distinct group, presently named *S. pusillus* group. It is characterized mainly by the apical lobes of the aedeagus, each bearing a deep, narrow, ventral incision and an apicodorsal spiny process.

Scopaeus minutus Erichson (Figs 22–24, 52, 83, 86, 87, 92–94)

Scopaeus minutus Erichson, 1840: 606. Lectotype ♂, Germany: Saxony, Sächsische Schweiz, Maerkel (ZMHB); here designated (examined).

- Scopaeus (Polyodontus) minutus*; FAUVEL 1890: 40.
Scopaeus (Euscopaeus) minutus; COIFFAIT 1960: 285.
Scopaeus (Alloscopaeus) minutus; COIFFAIT 1968: 418.
Scopaeus sulcicollis; GEMMINGER & HAROLD 1868: 619.
Scopaeus (Polyodontus) sulcicollis; Heyden 1891: 109.
Scopaeus minutus var. *debilis* Mulsant & Rey, 1854: 183; 1855: 71. Lectotype ♂, Switzerland (MHNL); here designated (examined); synonymised with *S. minutus* by BAYFORD 1932: 258.
Scopaeus debilis; DOHRN 1858: 26.
Scopaeus sulcicollis var. *debilis*; GEMMINGER & HAROLD 1868: 619.
Scopaeus (Polyodontus) sulcicollis var. *debilis*; GANGLBAUER 1895: 530.
Scopaeus minutus var. *intermedius* Mulsant & Rey, 1854: 183; 1855: 71. Lectotype ♂, Switzerland (MHNL); here designated (examined); synonymised with *S. minutus* by BAYFORD 1932: 258.
Scopaeus intermedius; DOHRN 1858: 26.
Scopaeus sulcicollis var. *intermedius*; GEMMINGER & HAROLD 1868: 619.
Scopaeus (Polyodontus) sulcicollis var. *intermedius*; GANGLBAUER 1895: 530.
Lathrobium pumilum Heer, 1838: 236; synonymised with *S. minutus* by KRAATZ 1857: 708.
Scopaeus pumilus; REDTENBACHER 1849: 718.
Scopaeus gracilipes Edmonds, 1933: 8. Holotype ♂, England: Charmouth, 10.06.1914 (BMNH); examined; synonymised with *S. minutus* by ALLEN 1968: 204.

Material examined (564 specimens). Austria: paralectotype 1 ♀ of *S. minutus* (ZMHB); Burgenland (MHNG, NHMW, SMTD); Carinthia (HNHM, MHNG, NHMW, VACH); Lower Austria (NHMW); Styria (NHMW, ZMHB); Tyrol (NHMW); Upper Austria (NHMW); Vienna (MHNG, NHMW, SMTD); Vorarlberg (NHMV). Bosnia-Herzegovina: (DEIC, HNHM, NHMW, NMPC, SMTD). Bulgaria: Jambol (HNHM, SMTD); Sliven; Sofia (NMPC); Stara Zagora (ZMHB). Croatia: Dalmatia (NHMW, SMTD); Istria (NHMW); Slavonia (HNHM, NMPC). Czech Republic: Jihomoravsky Kraj (HNHM, NHMW, SMTD); Prague (NHMW, SMTD); Stredocesky Kraj (MHNG, NHMW). England: holotype ♂ and paratypes 3 ♀ of *S. gracilipes*, Dorset, Charmouth (BMNH). France: paralectotypes 2 ♂ of *S. minutus* var. *debilis*, Lyon; paralectotypes 2 ♂, 1 ♀ of *S. minutus* var. *intermedius*, Lyon (MHNL); paralectotype 1 ♀ of *S. minutus*, Paris, Aubé (ZMHB); Ain (MHNG); Allier (NHMW, ZMHB); Alpes Maritimes; Ardèche (MHNG); Beaujolais (DEIC, NHMW); Corsica (MHNG); Haute Marne (MHNG); Hautes-Pyrénées (NMPC); Isère; Provence (MHNG); Rhône (NHMW, ZMHB); Savoie (BMNH). Germany: Lectotype ♂ and paratypes 2 ♂ of *S. minutus*, Saxony (ZMHB); Baden-Württemberg (MHNG, ZMHB, ZSMC); Bavaria (SMTD, ZMHB, ZSMC); Berlin (ZMHB); Brandenburg (ZMHB, ZSMC); Lower Saxony (VACH, ZMHB); Mecklenburg-West Pomerania (ZMHB); Saxony (MHNG, SMTD, ZMHB); Saxony-Anhalt (MHNG, SMTD, ZMHB); Schleswig-Holstein (MHNG, NHMW, SMTD); Thuringia (ZMHB). Hungary: Bács-Kiskun (VACH); Budapest (NHMW, TMP); Pest; Somogy (HNHM). Italy: Emilia-Romagna (MHNG, ZMHB); Friuli-Venezia Giulia (SMFD, ZMHB); Liguria (ZMHB); Lombardia (NHMW); Piemonte (DEIC, MCSN, MHNG); Trentino-Alto Adige (NHMW); Veneto (SMTD). Jugoslavia: Montenegro (SMTD). Poland: Cracow; Silesia (NHMW). Portugal: Coimbra (SMTD). Romania: Caras-Severin; Harghita (HNHM); South Carpathians (NHMW); Timis (MHNG); Transylvania (NHMW). Serbia: Belgrade (NMPC). Slovakia: Zapadoslovensky Kraj (MHNG). Slovenia (NHMW). Spain: Andalucia (NHMW). Switzerland: lectotype ♂ of *S. minutus* var. *intermedius*; lectotype ♂ and paralectotype 1 ♀ of *S. minutus* var. *debilis* (MHNL); Genève (MHNG); Graubünden (NHMB).

Description. Length 2.8–3.2 mm; forebody 1.5–1.8 mm. Uniformly light brown to dark brown, abdomen blackish. Elytra rarely a little darker, in dark specimens frequently lightened for more than half distal length. Appendages light yellowish-brown, in dark specimens slightly darker. Shape of head variable, tempora more or less enlarged, posterior margin of head slightly concave. Eyes about half

length of tempora. Elytra variably long, about 1.1–1.25 times as long as pronotum. Brachypterous specimens frequently with reduced metathoracic wings and with elytra often narrowed at base, strongly rounded shoulders and distally widened lateral margins. Protarsomeres 1–4 in both sexes twice as wide as long. Mesotibia usually slender, but often clearly thickened. Laterotergite 9 (fig. 83) with an obtuse dorsal tooth. Sternite 8 in male (fig. 52) in distal 1/4 with a V-shaped emargination. Apical lobes of aedeagus (figs 22–24) with dorsal margins straight proximally, strongly enlarged apically, with terminally truncate apices; ventral margins each extended proximally to form a slender, apically curved process. Dorsal lobe very short, triangular, deeply divided apically and extended into two hook-shaped ventral spines, truncate apically in lateral view. Ventral endophallic process rounded. Lateral lobes each with an apical group of long setae. Spermatheca (figs 92–94) very slender in lateral view, variable in shape.

Ratios. HLW 1.06–1.17; PLW 1.16–1.24; HPW 1.07–1.13; HPL 0.99–1.09; PSL 0.93–1.16; PLL 0.77–0.93; ELW 1.13–1.3; ET 0.46–0.53; MT 4.78–6.25; A 2.2, 1.4, 1.1, 1.0, 1.0, 1.0, 1.0, 0.9, 0.9, 0.9, 1.6; T 1.7; V (♀) 5.9.

D i s t r i b u t i o n . *Scopaeus minutus* is distributed throughout Western and Central Europe and over large parts of Southern Europe. In the north, *S. minutus* is distributed in Denmark (HANSEN 1951), southern Finland (LINDROTH 1960) and southern Sweden (Skane, Smaland; PALM 1963). In the British Isles it is only known from the south (Western Dorset; ALLEN 1968). The known distribution in East Europe has many gaps. Records are from South Poland, Romania, Bulgaria and, according to BINAGHI (in HORION 1965), from the Ukraine. Southward it reaches southern Spain (Malaga), Corsica, Central Italy (Teramo; BINAGHI 1935) and Bulgaria, Serbia and Hercegovina. BOHAC (1985*b*) reports *S. minutus* for North Africa without giving more detail.

B i o n o m i c s . *Scopaeus minutus* is a thermo-hygrophilous species inhabiting damp, denuded banks of rivers and small streams (BOHAC 1985*a*). It inhabits also secondary biotopes such as wet barrens in gravel pits or brickworks (HORION 1965). KOCH (1989) erroneously characterizes *S. minutus* as xero-thermophilous.

C o m m e n t s . Prior to 1930, some authors (e.g. GEMMINGER & HAROLD 1868; FAUVEL 1872, 1873; GANGLBAUER 1895; REITTER 1906) used the name *S. sulcicollis* (Stephens) for *S. minutus*, although MULSANT & REY (1877) had already pointed out that error. EDMONDS (1931, 1932) used the name *S. minutus* for *S. ryei* Wollaston and described British specimens of *S. minutus* as *S. gracilipes*. BINAGHI (1935) used aedeagal characters in *Scopaeus* and redefined *S. minutus*. The description of *S. pumilus* (HEER 1839) lacks diagnostic characters. It is based on specimens from Bern (Switzerland), which are not traceable in ETHZ and BMNH collections. Most authors, beginning with KRAATZ (1857), treated *S. pumilus* as a junior synonym of *S. minutus*, although *S. pumilus* is a senior synonym. In absence of type material *S. pumilus* is a nomen dubium. The record of *S. armeniacus* Coiffait from Slovakia (BOHAC 1985*b*) is based on a specimen (Roubal collection, SNMC), which proved to be a female of *S. minutus*.

***Scopaeus loebli* sp. n.**

(Figs 19–21, 51)

Material examined. Holotype ♂, Turkey: Kars, env. Karakurt, Aras river, 1400 m, 17.06.1986, Besuchet, Burckhardt, Löbl (MHNG). Paratypes. Turkey: 1 ♂, South-East Anatolia, 05.1967, Wittmer (MHNG); 1 ♂, Taurus Mts., Suluhan, 11.08.1947, Anatolia expedition of NMPC (NMPC); 1 ♂, Ankara, Cankaya, 02.07.1947, Anatolia expedition of NMPC (JFCG); Syria: 1 ♂, 6 ♀, Helfer (NHMW).

Description. Similar to *S. minutus* from which it differs as follows: Length 2.8–3.1 mm; forebody 1.5–1.7 mm. Body light brown to brown, pronotum frequently lighter, yellowish-brown. Elytra rarely darker, abdomen blackish. Appendages light yellowish-brown. Elytra shorter, about as long as pronotum, along suture up to 1/4 shorter than pronotum. Specimens with elytra distinctly longer than pronotum are not known. Metathoracic wings more or less reduced. Mesotibia often thickened. Aedeagus (figs 19–21) with dorsal margins of apical lobes strongly curved, hardly widened apically, not truncate; ventral margins each extended proximally to form a broader, more strongly curved process. Sternite 8 in male (fig. 51), lateral tergite 9, tergite 10, valve and spermatheca as in *S. minutus* (figs 52, 83, 86, 87, 92–94).

Ratios. HLW 1.06–1.14; PLW 1.18–1.25; HPW 1.09–1.21; HPL 0.99–1.03; PSL 1.08–1.25; PLL 0.9–1.02; ELW 1.1–1.18; ET 0.44–0.54; MT 4.78–5.75; A 2.5, 1.3, 1.2, 1.2, 1.2, 1.0, 0.9, 0.9, 0.9, 0.9, 1.6.

Distribution. *Scopaeus loebli* appears to replace *S. minutus* in Anatolia. It is known from the surroundings of Ankara, the Taurus Mountains and Kars. Specimens labelled “Syria” are ancient and possibly from Turkey.

Comments. The similar shape of the aedeagi of *S. minutus* and *S. loebli* indicates close relationship. *Scopaeus loebli* is dedicated to one of the collectors, Dr. Ivan Löbl.

***Scopaeus subopacus* Wollaston**

(Figs 25–27, 53)

Scopaeus subopacus Wollaston, 1860: 103. Holotype ♂, Madeira: S. Antonio da Serra, 1859, Bewicke (BMNH); examined.

Scopaeus (Euscopaeus) maderae Coiffait, 1960: 288. Holotype ♂, Madeira: Pico Ruivo, Coiffait (MNHN); examined. **Syn. n.**

Scopaeus (Alloscopaeus) maderae; COIFFAIT 1984: 187.

Material examined (2 specimens). Madeira: holotypes ♂ of *S. subopacus* (BMNH) and *S. maderae* (MNHN).

Description. Length 2.9–3.0 mm; forebody 1.6–1.7 mm. Body brown, elytra darker, except for suture and posterior margin, abdomen blackish. Appendages light brown, third segment of maxillary palpi somewhat darker. Surface notably dull, head and pronotum with dense isodiametric reticulation. Puncturation on elytra coarse, intervals variable, usually smaller than diameters. Elytral reticulation obsolete, elytra slightly more shining than head, pronotum and abdomen. Shape of head variable, tempora parallel or clearly widened, hind angles strongly rounded, posterior margin straight. Eyes about half as long as tempora. Head as long as pronotum or longer, elytra 1.2 times as long as pronotum. Metathoracic wings fully developed. Protarsomeres 1–4

twice as wide as long, mesotibia slender. Lateral tergite 9 and tergite 10 as in *S. minutus* (figs 83, 86, 87). Emargination of sternite 8 in male (fig. 53) more narrow than in *S. minutus*. Aedeagus (figs 25–27) similar as in *S. minutus*, distinguished as follows: apical lobes knife-shaped, curved ventrally, not truncate terminally, their ventral margins each extended to form a conspicuously slender, curved proximal process. Dorsal lobe with a wider incision. Ventral endophallic process strongly elongate. Female unknown.

Ratios. HLW 1.09–1.15; PLW 1.18; HPW 1.09–1.24; HPL 1.06–1.17; PSL 0.97–1.03; PLL 0.77–0.8; ELW 1.19–1.25; ET 0.45–0.5; MT 6.25; A 2.4, 1.4, 1.5, 1.4, 1.1, 1.0, 0.9, 0.9, 0.9, 0.9, 1.6.

Distribution. *Scopaeus subopacus* is known only from Madeira.

Comments. COIFFAIT (1984) overlooked the description of *S. subopacus*. *Scopaeus subopacus*, *S. loebli* and *S. minutus* are characterized by the aedeagi with long, slender apical lobes each bearing a slender, proximal process. These species form a distinct group named presently *S. minutus* group.

Scopaeus portai Luze

(Figs 28–30, 54, 84, 88, 89, 95)

Scopaeus portai Luze, 1910: 393. Lectotype ♂, Italy: Umbria, Porta (NHMW); here designated (examined).

Scopaeus (Polyodontus) portai; COIFFAIT 1952: 8.

Scopaeus (Hyposcopaeus) portai; COIFFAIT 1960: 285.

Polyodontus portai; OCHS 1953: 5.

Scopaeus portae; LASZLO 1983: 25 (misspelling).

Scopaeus (Polyodontus) portae; BINAGHI 1935: 101 (misspelling).

Scopaeus (Polyodontus) lareyniei COIFFAIT 1952. Holotype ♂, France: Alpes Maritimes, Vaugrenier, 22.02.1946, Laneyrie (MNHN); not examined; synonymised with *S. portai* by OCHS 1953: 6.

Scopaeus (Polyodontus) laneyriei; COIFFAIT 1953: 268 (misspelling).

Scopaeus (Polyodontus) portai temperei Coiffait, 1952: 5. Holotype ♂, France: Gironde, Gazinet, 24.06.1945, Tempère (MNHN); examined. **Syn. n.**

Scopaeus (Hyposcopaeus) portai temperei; COIFFAIT 1968: 420.

Scopaeus (Hyposcopaeus) portai lusitanicus Coiffait, 1968: 420. Holotype ♂, Portugal: Beja, Castro Verde, 07.1961, Coiffait (MNHN); examined. **Syn. n.**

Scopaeus (Hyposcopaeus) portai maroccanus Coiffait, 1970: 109. Holotype ♂, Morocco: Lac Aaouat, 20.03.1968, Coiffait (MNHN); examined. **Syn. n.**

Material examined (146 specimens). France: paratype 1 ♂ of *S. lareyniei*, Gironde (MHNG); holotype ♂ (MNHN) and paratype 1 ♂ (MHNP) of *S. portai temperei*, Gironde (MNHN); Alpes Maritimes (NMPC); Pyrénées-Orientales; Var (MNHN). Italy: lectotype ♂ and paralectotypes 1 ♂, 3 ♀ of *S. portai*, Umbria (NHMW); Giglio Isl. (MCSN); Lazio (DEIC, MCSN, ZMHB); Lombardia (NHMW); Toscana (DEIC); Veneto (NHMW). Morocco: holotype ♂ of *S. portai maroccanus*, Lac Aaouat (MNHN); Atlas Mts.; Chaouen; Tanger (MHNG). Portugal: holotype ♂ of *S. portai lusitanicus*, Beja (MNHN); Castelo Branco; Faro; Leiria; Lisbon; Setubal (BMNH, MHNG); Viana do Castelo (MHNG); Vila Real (BMNH, MHNG). Spain: Andalucía (DEIC, MHNG, NHMW, ZMHB); Catalonia (MHNG); Castilla-La Mancha (MHNG); Extremadura (VGCB); Valencia (MHNG). Tunisia: El Kef (MHNG).

Description. Length 2.6–3.0 mm. forebody 1.4–1.6 mm. Body dark brown, pronotum marginally lighter, abdomen blackish. Elytra blackish, with posterior

margin and broad strip along suture somewhat lighter. Appendages uniformly brown. Reticulation obsolete on elytra, clearly visible on head and pronotum, rendering puncturation indistinct. Pronotum with impunctate midline area as wide as protibial base. Tempora hardly widened, posterior margin of head straight. Eyes slightly shorter than tempora. Elytra about 1.2 times as long as pronotum. Metathoracic wings fully developed. Protarsomeres 1–4 in male distinctly more than twice as wide as long, in female about twice as wide as long. Dorsal margin of laterotergite 9 (fig. 84) with a strong tooth. Sternite 8 in male (fig. 54) with a shallow, obtuse, triangular apical emargination with sinuate lateral margins. Aedeagus (figs 28–30) with apical lobes conspicuously elongate and divided into a strongly sclerotized, longitudinally undivided proximal part and a more transparent apical part; apical part narrowed basally, deeply divided dorsally and on both sides extended to form a slender ventral spine. A ventral flagellar spine projecting from the apical lobes. Ventral endophallic process hook-shaped. Lateral lobes each with an apical group of long ventral setae. Process of spermatheca (fig. 95) hardly curved, chamber conspicuously discoid.

Ratios. HLW 1.09–1.15; PLW 1.17–1.22; HPW 1.02–1.12; HPL 0.97–1.04; PSL 0.98–1.02; PLL 0.79–0.83; ELW 1.18–1.25; ET 0.52–0.58; MT 5.33–5.71; A 2.3, 1.3, 1.4, 1.1, 1.0, 1.0, 1.0, 0.9, 0.9, 1.0, 1.6; T 1.8; V (♀) 4.1.

D i s t r i b u t i o n . *Scopaeus portai* is widespread in the western Mediterranean area and is known from Italy, southern France, Iberian Peninsula and from North Africa. BINAGHI (1935) recorded the species from Algeria. In the north *S. portai* reaches Verona and Bordeaux. In Italy it is distributed southwards to Sicily (CICERONI *et al.* 1995) and reaches Istria (BINAGHI 1935).

C o m m e n t s . According to the description, additional syntypes of *S. portai* are in the collection of the University of Camerino. The aedeagi of the types of the different subspecies (COIFFAIT 1952, 1968, 1970) cannot be distinguished. The description of *S. portai lusitanicus* (COIFFAIT 1968) is based on a teneral specimen. *Scopaeus portai* differs drastically from other species in aedeagal characters and appears to represent a distinct group.

Scopaeus sulcicollis (Stephens)

(Figs 34–36, 56, 97)

Astenus sulcicollis Stephens, 1832: 277. Lectotype ♂, England (BMNH); examined; here designated.

Scopaeus sulcicollis; GEMMINGER & HAROLD 1868: 619.

Scopaeus (Polyodontus) sulcicollis; FAUVEL 1890: 40.

Scopaeus (s. str.) *sulcicollis*; COIFFAIT 1984: 181.

Scopaeus cognatus Mulsant & Rey, 1854: 180; 1855: 68. Lectotype ♂, France: Lyon (MHNL); here designated (examined); synonymised with *S. sulcicollis* by FAUVEL 1890: 40.

Scopaeus (Polyodontus) cognatus; HEYDEN 1891: 109.

Scopaeus (s. str.) *cognatus*; COIFFAIT 1952: 8.

Material examined (436 specimens). Austria: Carinthia (MHNG); Lower Austria (NHMW); Styria (JHUG, NHMW); Tyrol (BKCB, HTCO, MSCB, NHMW); Upper Austria (NHMW); Vienna (JHUG); Vorarlberg (BKCB, MHNG, NHMW). Belgium: Namur (SMTD). Bosnia-Herzegovina (MHNG, NHMW, SMTD). Bulgaria: Blagoevgrad (DEIC). Croatia: Dalmatia (ZMHB); Istria (MHNG). Czech Republic: Jihočeský Kraj (NMPC); Krušné Hory (NHMW);

Prague (MHNG); Stredocesky Kraj (MHNG, NHMW). England: lectotype ♂ of *S. sulcicollis*; Devon; Dorset; East Sussex; Essex (BMNH); London (BMNH, DEIC); Oxfordshire (BMNH); Surrey (BMNH); Tyne and Wear (MZLU). France: lectotype ♂ and paralectotypes 2 ♂, 1 ♀ of *S. cognatus*, Lyon (MHNL); Ain; Alpes Maritimes (MHNG); Alsace; Aisne (ZMHB); Basses-Pyrénées; Calvados (MHNG); Finistère (ZSMC); Gironde; Haute-Garonne; Hautes-Pyrénées; Isère; Paris; Rhône; Var (MHNG). Germany: Baden-Württemberg (MHNG, ZMHB, ZSMC); Bavaria (NHMW, ZMHB, ZSMC); Hamburg (MHNG); Hesse (ASCW, CMCB, DEIC, JFCG); Lower Saxony (DEIC, MHNG, ZMHB); Mecklenburg-West Pomerania (ZMHB); North Rhine-Westphalia (MZLU); Rhineland-Palatinate (ZMHB); Saxony-Anhalt (DEIC, SMTD, ZMHB); Saxony (DEIC, SMTD); Schleswig-Holstein (MHNG); Thuringia (DEIC). Greece: Olympus Mts. (JFCG). Hungary: Budapest (HNHM); Győr Moson-Sopron (MHNG); Pécs (NHMW). Italy: Calabria (DEIC); Emilia-Romagna (NHMB, ZMHB); Friuli-Venezia Giulia (SMFD, ZMHB); Liguria (MCSN, NHMW, NMPC); Lombardia (NHMW); Piemonte (DEIC, MCSN, NHMW, ZMHB); Puglia; Toscana (NHMW, SMTD); Trentino-Alto Adige (MCSN, MHNG, NHMW, ZMHB); Veneto (MHNG, NHMW). Liechtenstein (BKCB). Poland: Cracow (ZSMC); Silesia (NHMW, ZMHB). Romania: Alba (NHMW); Timis (DEIC); Transsylvania (NHMW). Slovakia: Stredoslovensky Kraj; Vychodoslovensky Kraj (ZMHB). Slovenia (NMPC, NHMW). Spain (ZMHB). Sweden: Göteborgs Län; Östergötlands Län (MZLU). Switzerland: Graubünden (NHMB, NHMW); Ticino (NHMB); Vaud (NHMW).

Description. Length 2.8–3.6 mm; forebody 1.6–1.8 mm. Body uniformly more or less dark brown. Posterior margins and suture of elytra often somewhat lighter brown, abdomen blackish. Appendages light yellowish-brown, third segment of maxillary palpi darker. Elytral puncturation coarse and dense. Tempora distinctly widened, posterior margin of head remarkably concave. Eyes about half length of tempora. Elytra short, less than 1.2 times as long as wide and about 1.1 times as long as pronotum, along suture up to 1.2 times shorter than pronotum. Metathoracic wings reduced. Protarsomeres 1–4 in both sexes widened, twice as wide as long. Mesotibia strongly widened, less than five times as long as wide. Lateral tergite 9, tergite 10 and valve as in *S. argonauta* Gusarov (figs 85, 90, 91). Laterotergite 9 (fig. 85) with small, obtuse dorsal dilatation. Sternite 8 in male (fig. 56) with a semicircular emargination in distal fifth and with two extensive, elongate depressions in distal half, which are divided by a longitudinal elevation with a posterior group of long, dark setae. Depressions without setae. Apical lobes of aedeagus (figs 34–36) with almost straight ventral margins, each extended into a short apical dent. Dorsal lobe curved ventrally, not projecting from ventral margins of apical lobes. Lateral lobes reduced, bearing short setae. Chamber of spermatheca (fig. 97) widened triangularly, process slender with parallel margins.

Ratios. HLW 1.06–1.14; PLW 1.13–1.2; HPW 1.08–1.14; HPL 1.0–1.08; PSL 1.06–1.19; PLL 0.86–0.93; ELW 1.13–1.18; ET 0.49–0.53; MT 4.25–4.73; A 2.1, 1.2, 1.4, 1.2, 1.0, 0.9, 0.9, 0.9, 0.8, 0.8, 1.7; T 1.8; V (♀) 5.5.

Distribution. *Scopaeus sulcicollis* is common in Central Europe and in temperate areas of Western Europe. It is known northwards to Newcastle near the Scottish border, Oslo (LINDROTH 1960) and Dalama (PALM 1963). The easternmost data are from Estonia (SILFVERBERG 1992), Poland (Cracow), Hungary, Romania and Bulgaria. *Scopaeus sulcicollis* reaches in Southern Europe Calabria and Northern Greece (Olympus Mountains), but is unknown from the Iberian Peninsula and from

Mediterranean islands, except for the doubtful records from Corsica and Sardinia (PORTA 1926).

B i o n o m i c s . Unlike most *Scopaeus* species, *S. sulcicollis* is less hygrophilous and not restricted to banks or shorelands. It also occurs in dry areas like barrens, grassland and forest-steppes (BOHÁČ 1985a; HORION 1965; KOCH 1989). In Hesse (Germany) it occurs in rather dry grassland (*Brometalia erecti*, *Arrhenatheretum elatioris*) (pers. observation).

C o m m e n t s . While British authors except FOWLER (1888) interpreted *S. sulcicollis* correctly (ALLEN 1968), continental authors followed FAUVEL (1872) in applying this name to *S. minutus* and used the junior synonym *S. cognatus* for the true *S. sulcicollis*. Some authors (e.g. Binaghi 1935) ignored the latter name. Fauvel (1890) revalidated *S. minutus* early and synonymized *S. cognatus*, but some continental authors (e.g. BOHÁČ 1985b; BOHÁČ 1993; LOHSE 1964) still use the latter for *S. sulcicollis*. EDMONDS (1931, 1932, 1933) pointed out this error too. But he recorded dark specimens of *S. sulcicollis* from Britain as *S. abbreviatus*, as the author confirmed through the examination of Edmonds material.

Scopaeus argonauta Gusarov

(Figs 31–33, 55, 85, 90, 91, 96)

Scopaeus (s. str.) *argonauta* Gusarov, 1992: 781.

Material studied (3 specimens). Caucasus (JFCG, NHMW).

D e s c r i p t i o n . Similar to *S. sulcicollis* from which it differs as follows: Length 3.2–3.6 mm, forebody 1.8–1.9 mm. Body shape as in *S. sulcicollis*, but somewhat larger, tempora less widened. Elytra longer, about 1.2 times as long as pronotum. Metathoracic wings fully developed. Mesotibia more slender, about five times as long as wide. Sternite 8 in male (fig. 55) as in *S. sulcicollis*, but triangular emargination less rounded and entire median elevation bearing dark setae. Apical lobes of aedeagus (figs 31–33) widened distadly and truncate apically, each with a ventral emargination; dorsal lobe curved ventrally and projecting from ventral margins of apical lobes. Spermatheca (fig. 96) as in *S. sulcicollis*.

Ratios. HLW 1.1–1.12; PLW 1.16–1.17; HPW 1.08–1.1; HPL 1.03–1.06; PSL 1.0–1.04; PLL 0.8–0.81; ELW 1.19–1.21; ET 0.5–0.51; MT 4.58–5.09; A 2.1, 1.3, 1.3, 1.3, 0.9, 0.9, 0.9, 0.8, 0.8, 0.8, 1.7; T 1.8; V (♀) 5.5.

D i s t r i b u t i o n . *Scopaeus argonauta* is known from the Caucasus region only. GUSAROV (1992) described the species from Georgia (Agara), Abchasia and South Russia (Krasnodar Krai).

C o m m e n t s . *Scopaeus argonauta* appears to replace *S. sulcicollis* in the Caucasus region. Both species apparently form a distinct group, presently named *S. sulcicollis* group, which is distinguished by aedeagal characters (shape of apical lobes, apically undivided, ventrally curved dorsal lobe) and by the characteristic shape of sternite 8 of males.

Scopaeus gladifer Binaghi

(Figs 37–39, 57, 98, 101, 102, 107)

Scopaeus (Polyodontus) gladifer Binaghi, 1935: 105. Holotype ♂, Romania: Tulcea, Macin, Montandon (MCSN); examined.

Scopaeus (Alloscopaeus) gladifer; COIFFAIT 1984: 185.

Scopaeus (Hyposcopaeus) bulgaricus Coiffait, 1971: 285. Holotype ♂, Bulgaria: Burgas, Jasna Poljana, 11.10.1970, Coiffait (MNHN); examined. **Syn. n.**

Material examined (9 specimens). Bulgaria: holotype ♂ of *S. bulgaricus*, Burgas (MNHN); Burgas (ZMHB). Romania: holotype ♂ and paratype 1 ♀ of *S. gladifer*, Tulcea (MCSN). Russia: Orenburg Oblast' (JFCG, NMPC). Ukraine: Laila Mts. (MHNG).

Description. Length 3.1–3.4 mm; forebody 1.6–1.9 mm. Body uniformly brown, often slightly darker, abdomen blackish. Appendages light brown, third segment of maxillary palpi darker. Tempora widened, posterior margin of head notably concave. Eyes about half as long as tempora. Pronotum with impunctate midline area as wide as half of width of protibial base. Elytra relatively long, laterally about 1.2 times as long as pronotum, along suture as long as pronotum. Metathoracic wings either fully developed or somewhat reduced. Protarsomeres 1–4 in both sexes twice as wide as long. Mesotibia widened, usually more than five times as long as wide. Laterotergite 9 (fig. 98) with an obtuse, sinuate dorsal dilatation. Sternite 8 in male (fig. 57) with a triangular distal emargination for less than 1/5 of its length. Apical lobes of aedeagus (figs 37–39) parallel and shortly rounded apically in dorsal view, narrowed gradually with hook-shaped proximal margins in lateral view. Dorsal lobe long and very slender, its distal half deeply notched longitudinally. Ventral endophallic process shortly rounded. Lateral lobes slightly extended, each bearing a row of long setae. Spermatheca (fig. 107) with chamber and process triangularly widened in dorsal view and curved in lateral view; chamber widened basally.

Ratios. HLW 1.06–1.09; PLW 1.12–1.18; HPW 1.08–1.1; HPL 0.99–1.06; PSL 0.97–1.12; PLL 0.78–0.88; ELW 1.14–1.22; ET 0.45–0.51; MT 4.9–5.56; A 2.2, 1.3, 1.1, 1.1, 1.0, 0.9, 0.9, 0.9, 0.8, 0.8, 1.7; T 1.9; V (♀) 6.0.

Distribution. *Scopaeus gladifer* is widespread in southern parts of East Europe. It is known from the Black Sea regions of Romania, Bulgaria and the Ukraine and from the Russian Samara region west of the Ural Mountains.

Comments. According to the description, an additional paratype of *S. gladifer* from Tulcea is in the Doderö collection. Also, two locotypical paratypes of *S. bulgaricus* (MNHN) have not been examined. *Scopaeus gladifer* appears to be close to *S. minutoides* Coiffait from southern Anatolia by the aedeagal characters.

Scopaeus signifer Fauvel

(Figs 40–42, 59, 60, 100, 105, 106, 109)

Scopaeus signifer Fauvel, 1899: 72. Lectotype ♂, Tunisia: Gabés (ISNB); here designated (examined).

Scopaeus (s. str.) *signifer*; COIFFAIT 1968: 414.

Scopaeus bicolor kochi Binaghi (in KOCH 1937): 255. Holotype ♂, Libya: Fezzan, Traghen, 25.04.1936, Koch (MCSN); examined. **Syn. n.**

Scopaeus (Hyposcopaeus) remsensis Coiffait, 1973: 285. Holotype ♂, Morocco, Tarfaya, Tuisgui Rems, 25.10.1971, Coiffait (MNHN); examined. **Syn. n.**

Material examined (21 specimens). Iran: Lorestan (MHNG). Iraq: Mesopotamia (BMNH); Misan (HNHM). Israel: Galilee (JFCG, MHNG). Libya: holotype ♂ and paratypes 1 ♂, 1 ♀ of *S. bicolor kochi*, Fezzan, Traghan, 25.04.1936, Koch (MCSN). Morocco: holotype ♂ of *S. remsensis*, La' Youn (MNHN). Tunisia: lectotype ♂ and paralectotypes 1 ♂, 1 ♀ of *S. signifer*, Gabés (ISNB); paralectotype 1 ♀ of *S. signifer*, same data as lectotype (NMPC). Turkey: Adana (NMPC); Antalya (VACH).

Description. Length 3.0–3.4 mm; forebody 1.6–1.8 mm. Colour variable. Specimens from Anatolia, Iran and Irak are uniformly light yellowish-brown and likely teneral. Specimens from Tunisia are slightly darker, light brown with lighter, yellowish elytra and appendages. Specimens from Israel are brown with elytra and abdomen notably darker, appendages light brown. Punctuation on forebody relatively dense and fine. Head conspicuously slender, about 1.25 times as long as wide, hind angles strongly rounded, posterior margin straight or slightly convex. Tempora not widened, frequently somewhat narrowed behind eyes, about 1.5 times as long as eyes. Eyes large. Elytra conspicuously long, laterally 1.25 times as long as pronotum, along suture not more than 1.1 times as long as pronotum. Metathoracic wings fully developed. Protarsomeres 1–4 in both sexes twice as wide as long. Mesotibia conspicuously slender. Laterotergite 9 (fig. 100) with a strong dorsal tooth, ventral margin obtusely narrowed apically. Sternite 8 in male (fig. 60) with a wide, obtuse distal emargination. Sternite 7 (fig. 59) in male with a roughly rectangular, medioapical emargination, surrounded by long setae. Aedeagus (figs 40–42) with apical lobes and dorsal lobe short and weakly sclerotized. Apical lobes curved towards each other apically and bearing minute lateral setae, ventral margins regularly rounded. Endophallic spine long, reaching apex of apical lobes. Lateral lobes well developed, bearing each a row of long setae. Spermatheca (fig. 109) slender with chamber and process strongly curved towards each other in lateral view. Process regularly narrowed, distal half of chamber curved and widened, sclerotized ductus strong.

Ratios. HLW 1.2–1.26; PLW 1.23–1.35; HPW 1.04–1.12; HPL 1.0–1.07; PSL 0.89–0.97; PLL 0.75–0.8; ELW 1.17–1.29; ET 0.61–0.7; MT 6.13–7.14; A 2.3, 1.4, 1.5, 1.1, 1.1, 1.0, 0.9, 0.9, 0.9, 0.8, 1.8; T 2.2; V (♀) 7.3.

Distribution. *Scopaeus signifer* is widespread from southern Morocco to Libya and in Middle East.

Comments. FAUVEL (1899) mentions additional syntypes of *S. signifer* in the Alluaud collection (not examined), housed primarily in MNHN (HORN *et al.* 1960). According to KOCH (1937), the description of *S. bicolor kochi* is based on 25 specimens deposited in the Museum Pietro Rossi, Duino (not examined). Paratypes (1 ♂, 3 ♀) of *S. remsensis* (MNHN and coll. I.S.C., Rabat) have neither been examined. The shape of male sternites 7 and 8 and the aedeagal characters are similar in *S. signifer*, *S. bicolor* Binaghi, distributed in north of Italy and on the Balkans, and *S. galinae* Gusarov from Turkmenistan and Uzbekistan. These species appear to form a distinct species group, here named *S. signifer* group.

Scopaeus hispanicus Binaghi

(Figs 43–45, 58, 99, 103, 104, 108)

Scopaeus (Polyodontus) hispanicus Binaghi, 1935: 98. Holotype ♂, Spain: Castilla-León, Béjar, Champion (MCSN); examined.

Scopaeus (Alloscopaeus) hispanicus; COIFFAIT 1968: 415.

Scopaeus (Alloscopaeus) gredensis Coiffait, 1968: 415. Holotype ♂, Spain: Castilla-León, Sistema Central, Sierra de Gredos, Franz (MNH); examined. **Syn. n.**

Scopaeus (Hyposcopaeus) gredensis; COIFFAIT 1984: 196.

Material examined (67 specimens). Portugal: Beja (MHNG); Braga (MHNG); Vila Real (MHNG). Spain: holotype ♂ of *S. hispanicus*, Castilla-León (MCSN); holotype ♂ of *S. gredensis*, Sistema Central (MNH); Castilla-León (JFCG, MHNG, MSCB).

Description. Length 2.7–3.2 mm; forebody 1.5–1.6 mm. Body dark brown, anterior third of pronotum frequently slightly lighter. Appendages light brown, third segment of maxillary palpi a little darker. Pronotum with narrow, impunctate midline area as wide as half of protibial base. Tempora slightly widened, posterior margin of head weakly concave. Eyes about as long as 0.5–0.6 of tempora. Elytra conspicuously long, laterally about as long as 1.25 times of pronotum, along suture as long as 1.1 times of pronotum. Metathoracic wings fully developed. Protarsomeres 1–4 in male more than twice as wide as long, in female about twice as wide as long. Mesotibia slender. Laterotergite 9 (fig. 99) with a strong dorsal tooth. Sternite 8 in male (fig. 58) with a triangular emargination in apical fifth, bearing two elongated, markedly light depressions separated by a darker midline. Apical lobes of aedeagus (figs 43–45) separated in a wide proximal part and a more slender, slightly sclerotized distal part. Proximal part with strongly rounded ventral margins and weakly concave dorsal margins, lateral margins slightly concave in dorsal view. Dorsal lobe long and slender, very deeply divided medially in two outwardly curved parts. Ventral spine strongly hook-shaped, forming two short apical teeth. Lateral lobes strongly elongate, without setae, slightly sclerotized and translucent at apex. Spermatheca (fig. 108) slender with shortly widened ends in dorsal view; process strongly curved, chamber approximately straight, markedly curved apically; sclerotized ductus arising from end of chamber, strong and elongate.

Ratios. HLW 1.11–1.16; PLW 1.13–1.22; HPW 1.04–1.12; HPL 1.02–1.07; PSL 0.88–0.97; PLL 0.71–0.78; ELW 1.2–1.25; ET 0.51–0.59; MT 5.22–6.43; A 2.1, 1.3, 1.2, 1.1, 0.9, 0.9, 0.9, 0.8, 0.8, 0.9, 1.8; T 1.8; V (♀) 7.5.

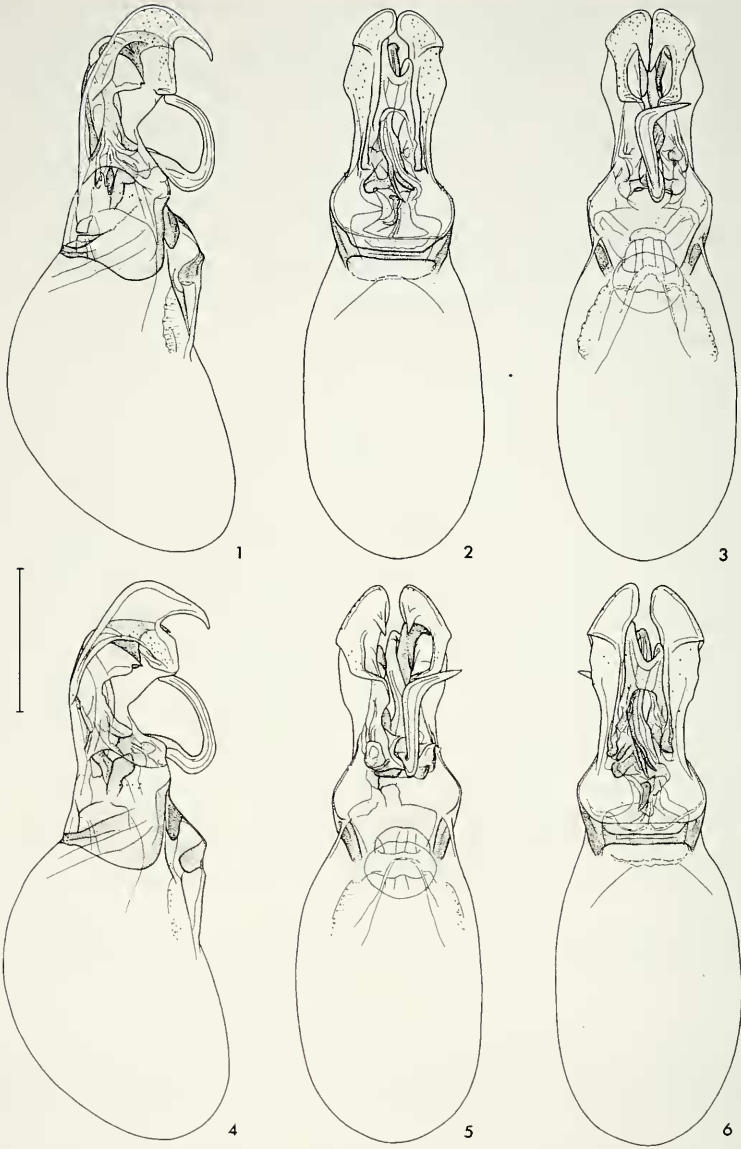
Distribution. *Scopaeus hispanicus* is known from Portugal and Central Spain (Castilla-León). It appears to be absent from north-west Spain where the related *S. franzi* Coiffait occurs.

Comments. A paratype ♂ of *S. gredensis* (MNH) from the type locality has not been examined.

ACKNOWLEDGEMENTS

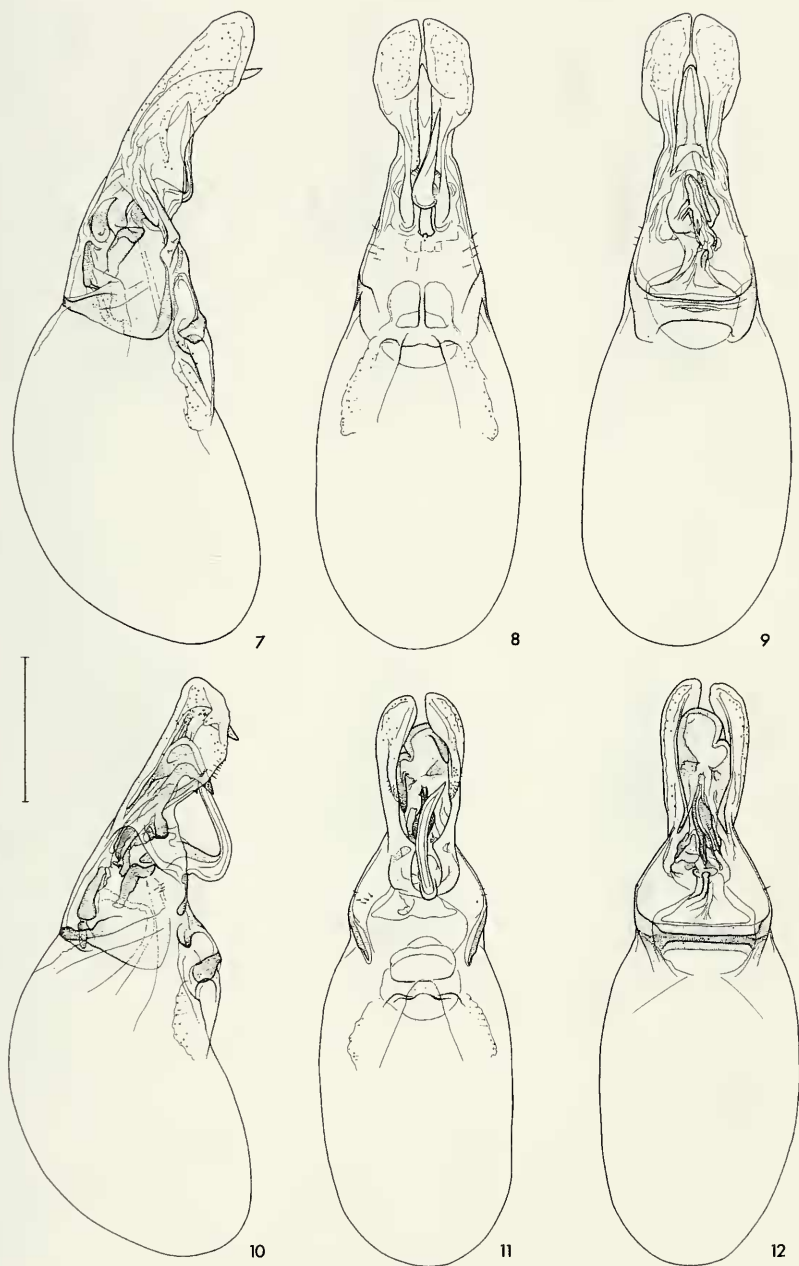
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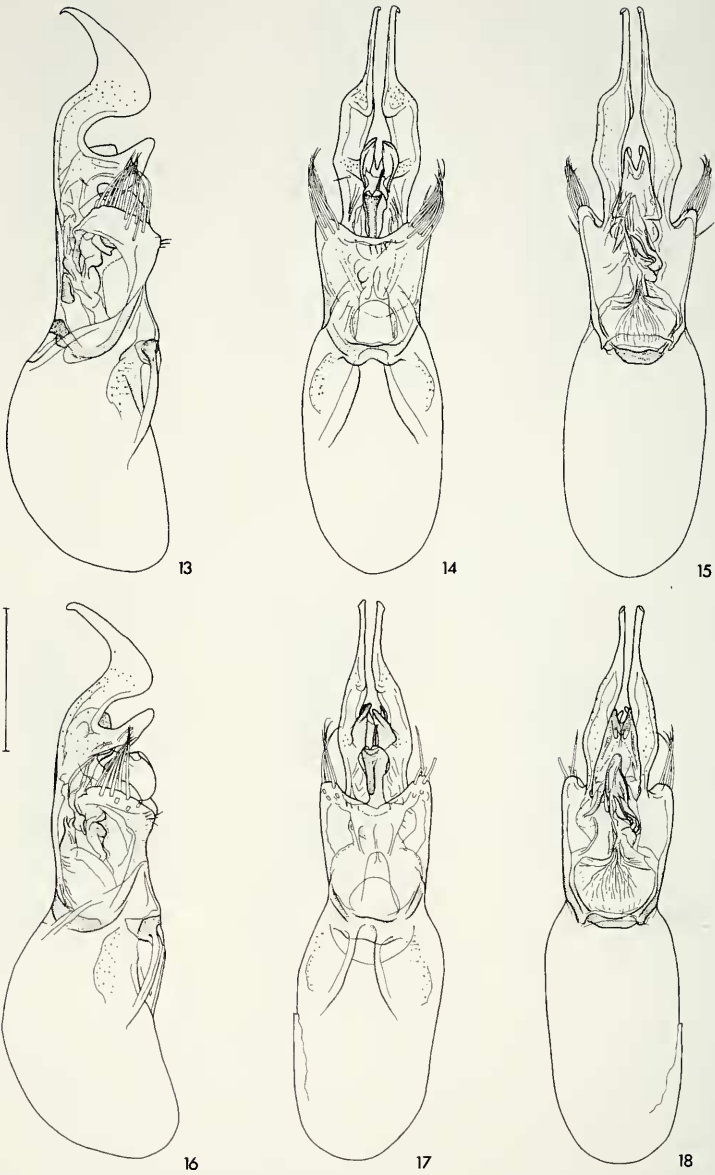
FIGS 1-6

Scopaeus cameroni, ♂ paratype: aedeagus in 1) lateral, 2) dorsal, 3) ventral view. *Scopaeus illyricus* sp. n., ♂ holotype: aedeagus in 4) lateral, 5) ventral, 6) dorsal view. Scale bar = 0.1 mm.



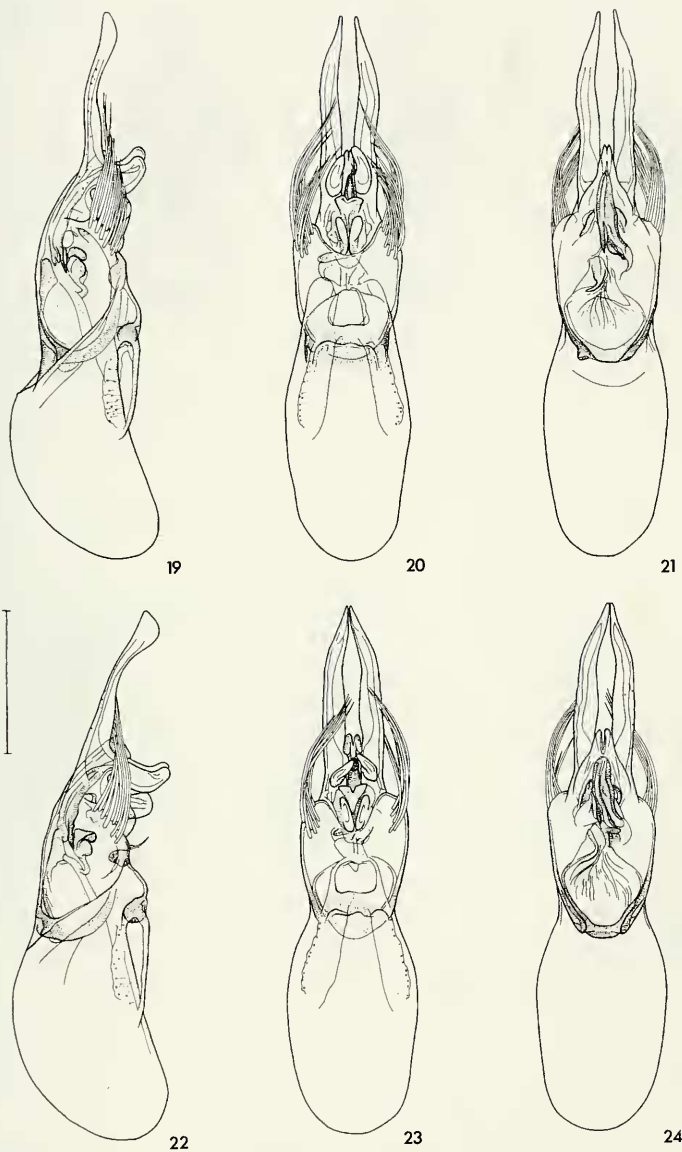
FIGS 7-12

Scopaeus cyprius sp. n., ♂ holotype: aedeagus in 7) lateral, 8) ventral, 9) dorsal view. *Scopaeus haemusensis* sp. n., ♂ holotype: aedeagus in 10) lateral, 11) ventral, 12) dorsal view. Scale bar = 0.1 mm.



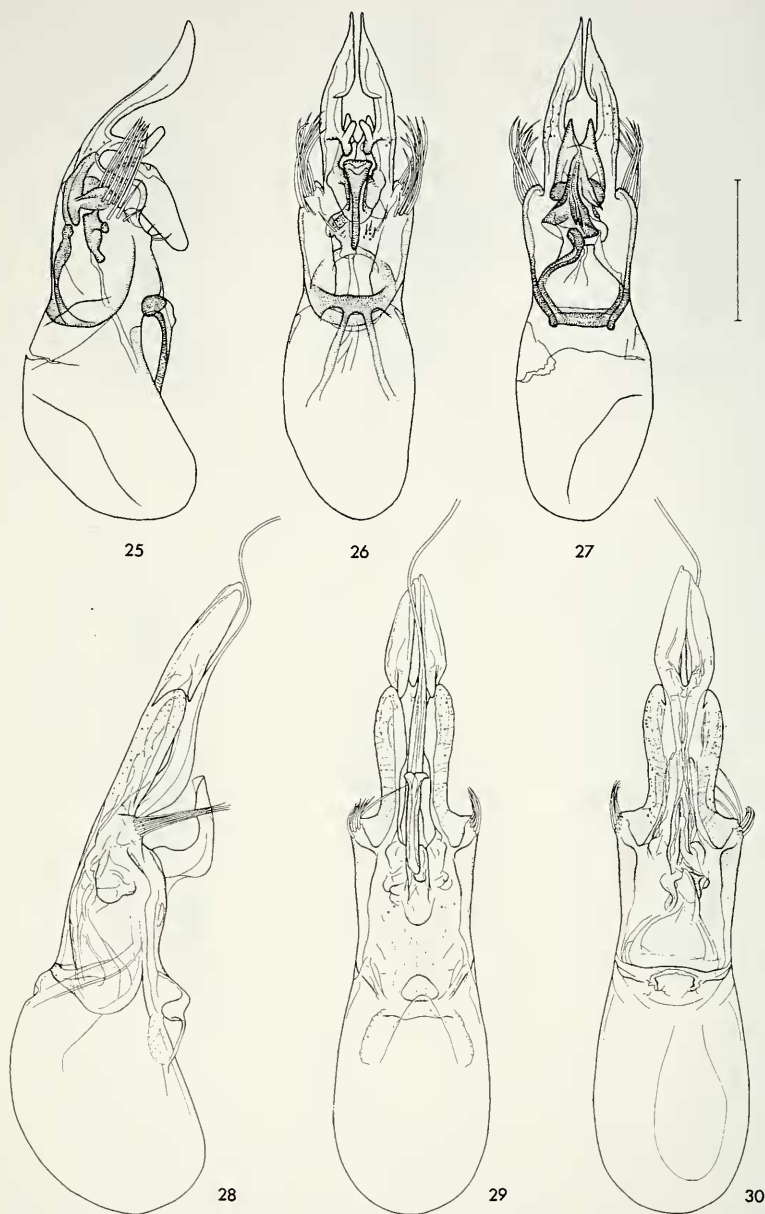
FIGS 13-18

Scopaeus chalcodactylus, ♂ lectotype: aedeagus in 13) lateral, 14) ventral, 15) dorsal view.
Scopaeus pusillus, ♂ lectotype: aedeagus in 16) lateral, 17) ventral, 18) dorsal view. Scale bar = 0.1 mm.



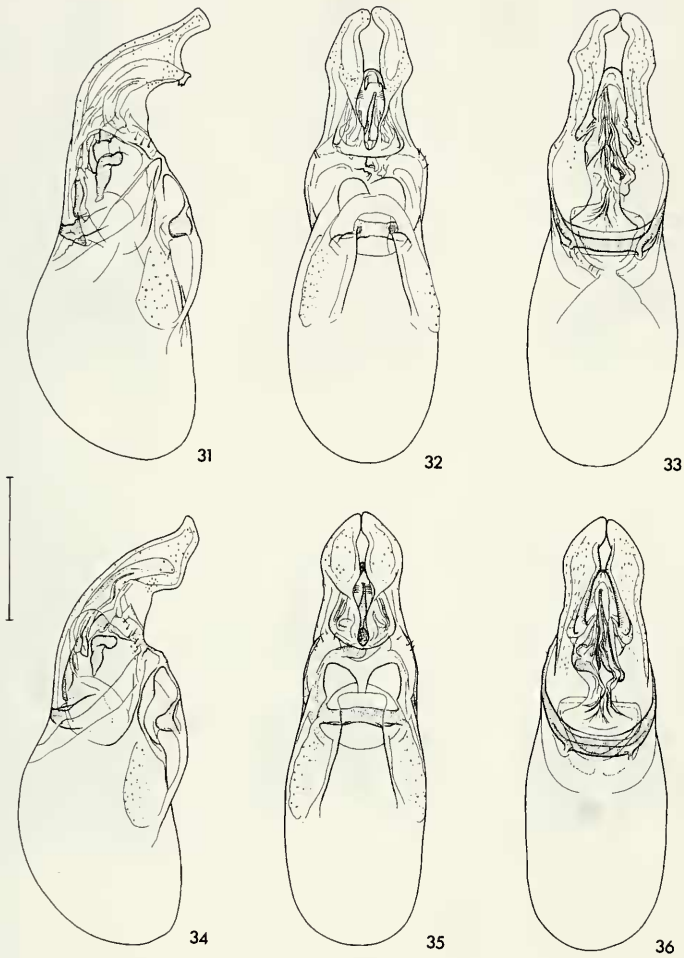
FIGS 19-24

Scopaeus loebli sp. n., ♂ holotype: aedeagus in 19) lateral, 20) ventral, 21) dorsal view. *Scopaeus minutus*, ♂ lectotype: aedeagus in 22) lateral, 23) ventral, 24) dorsal view. Scale bar = 0.1 mm.



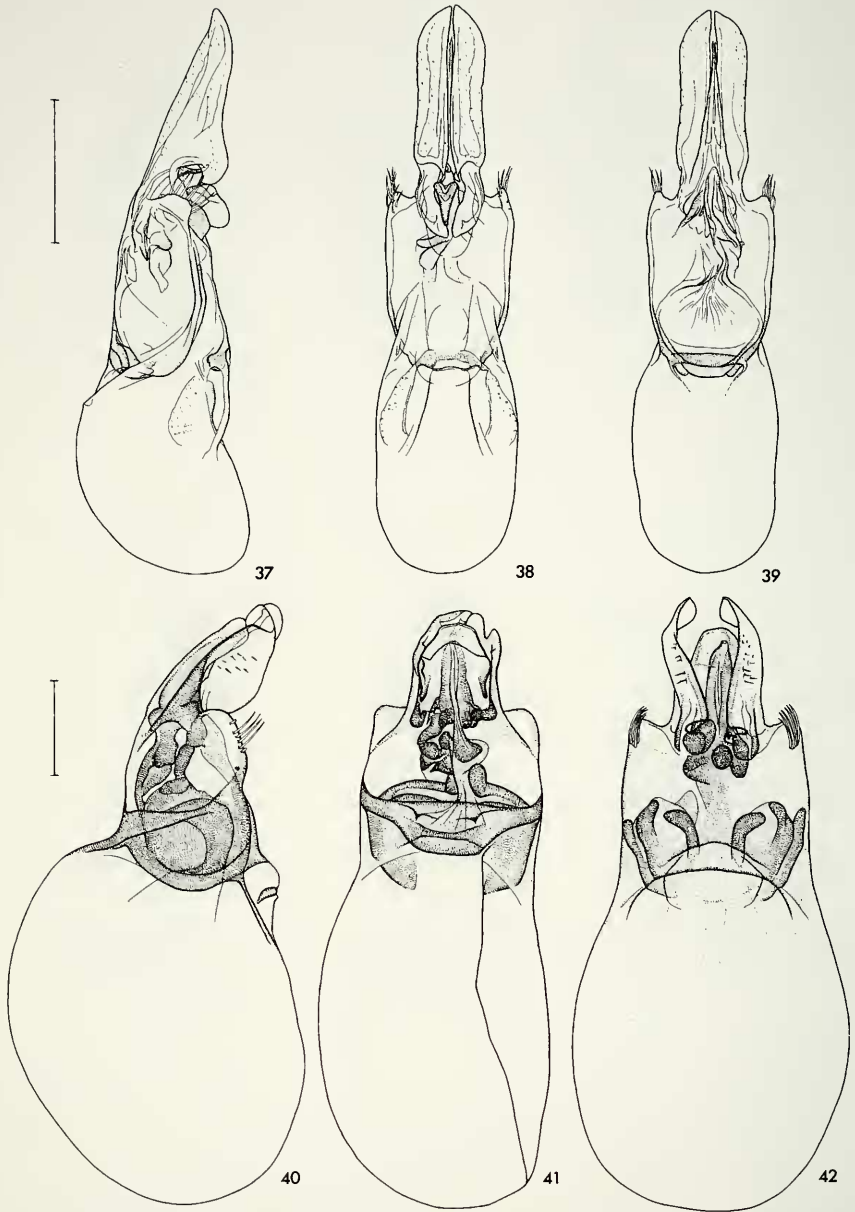
FIGS 25-30

Scopaeus subopacus, ♂ holotype of *S. maderae* syn. n.: aedeagus in 25) lateral, 26) ventral, 27) dorsal view. *Scopaeus portai*, ♂ lectotype: aedeagus in 28) lateral, 29) ventral, 30) dorsal view. Scale bar = 0.1 mm.



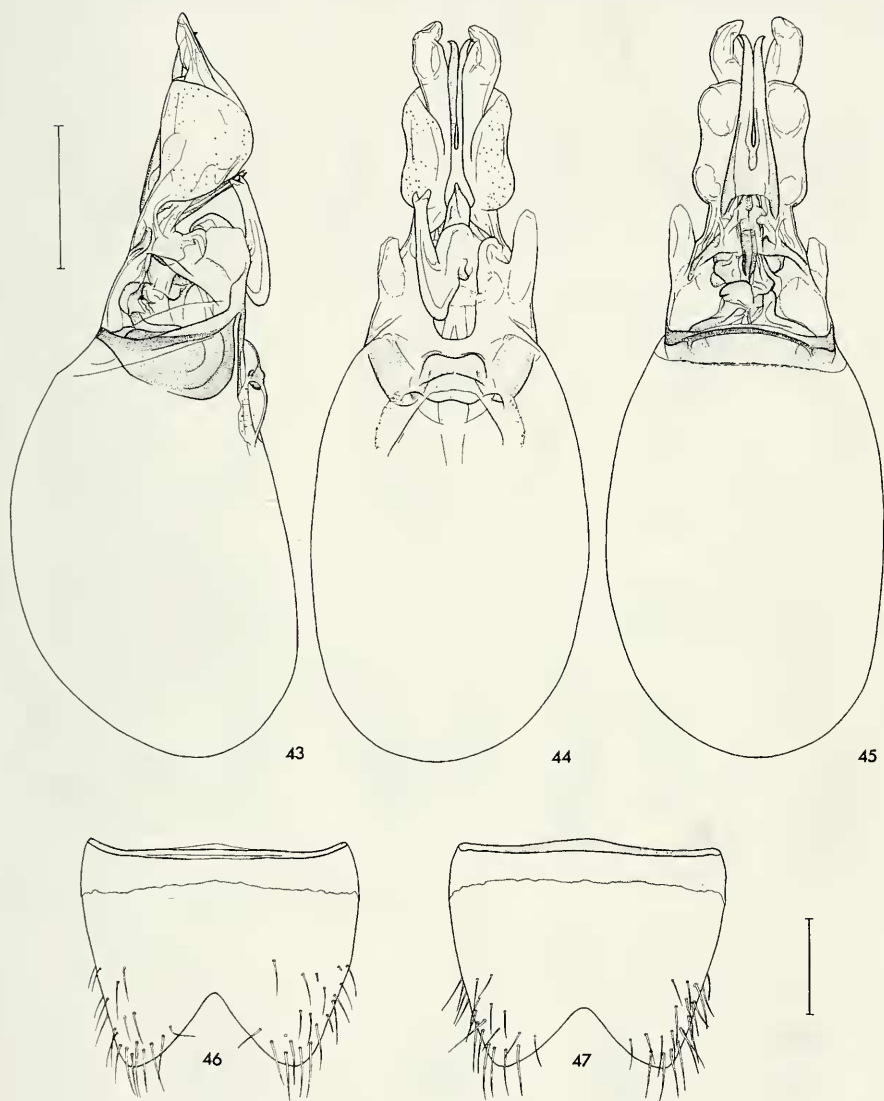
FIGS 31-36

Scopaeus argonauta, ♂, Caucasus: aedeagus in 31) lateral, 32) ventral, 33) dorsal view.
Scopaeus sulcicollis, ♂ lectotype: aedeagus in 34) lateral, 35) ventral, 36) dorsal view. Scale
 bar = 0.1 mm.



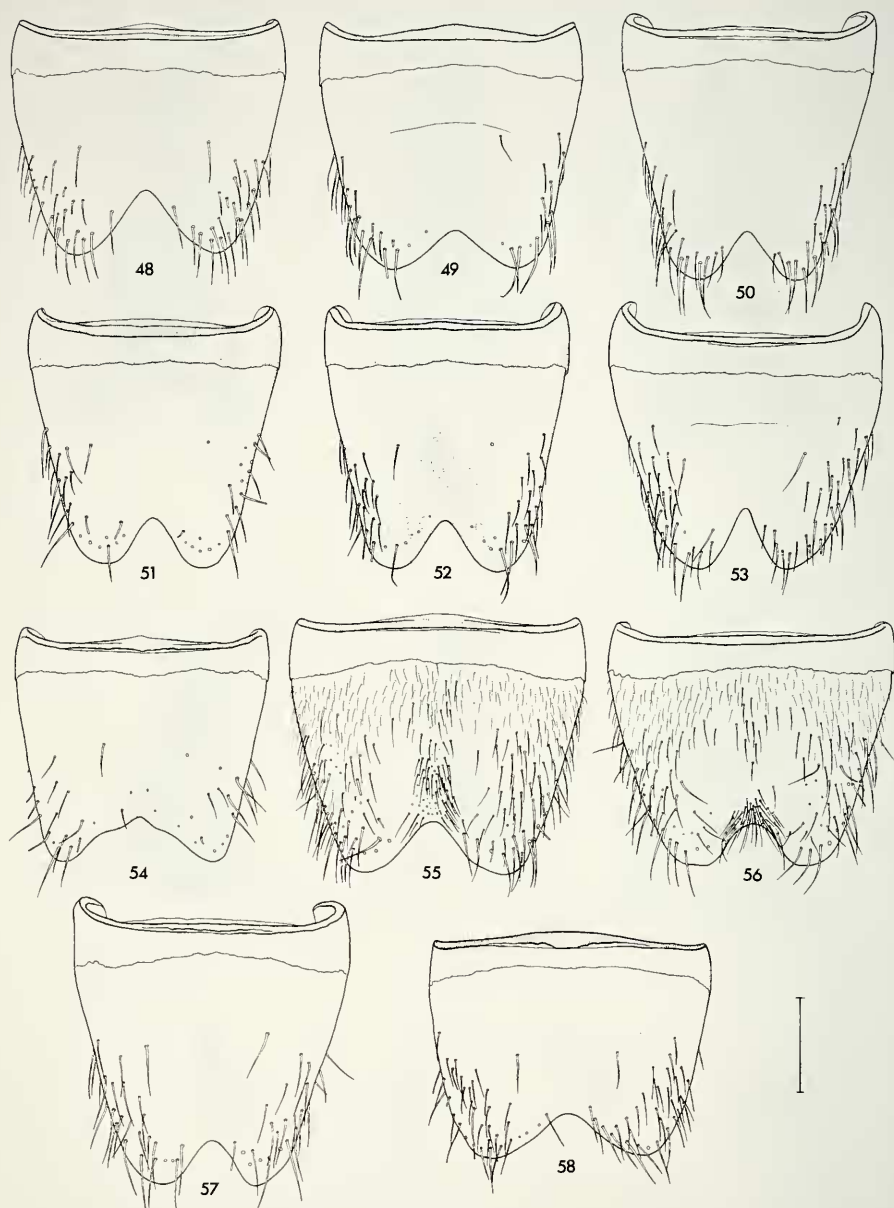
FIGS 37-42

Scopaeus gladifer, ♂ holotype: aedeagus in 37) lateral, 38) ventral, 39) dorsal view. *Scopaeus signifer*, ♂ lectotype: aedeagus in 40) lateral, 41) dorsal view, ♂ paralectotype: aedeagus in 42) ventral view. Scale bar = 0.1 mm.



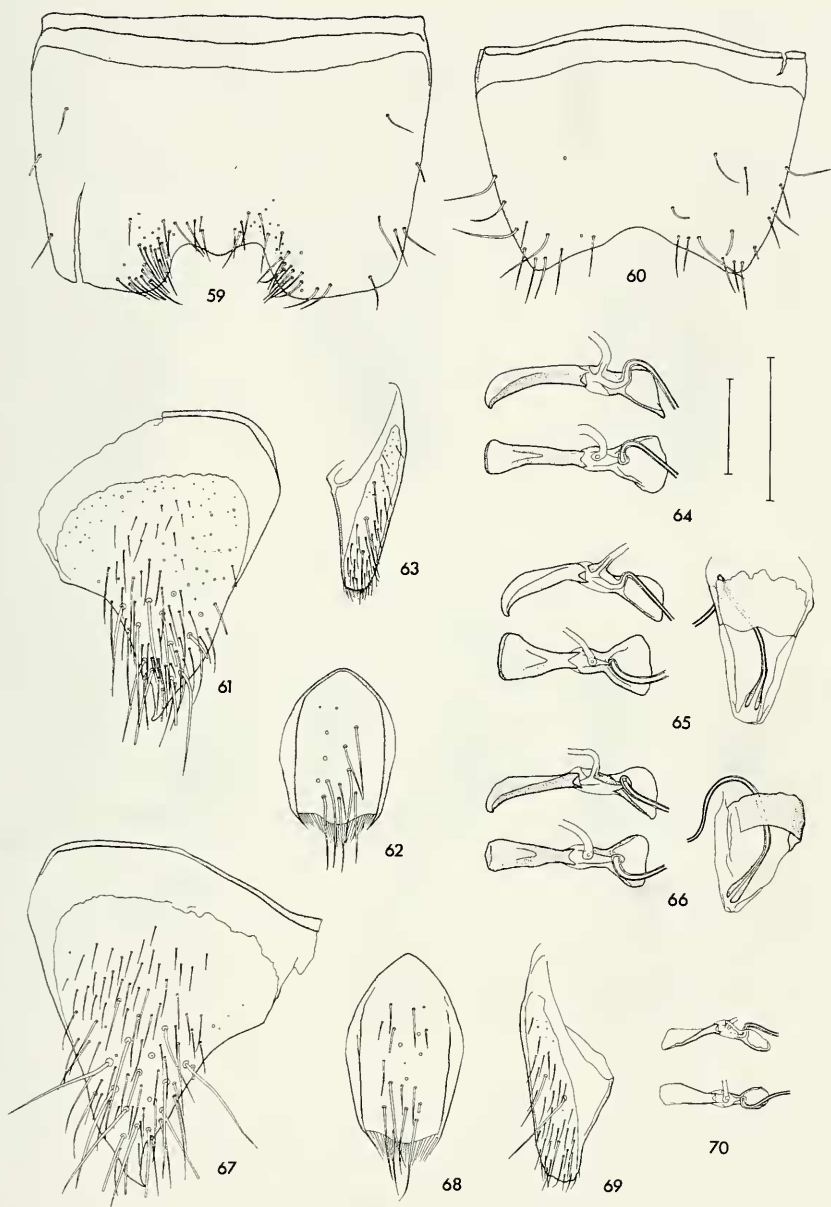
FIGS 43–47

Scopaeus hispanicus, ♂, Spain, Burgos, Sierra de Neila: aedeagus in 43) lateral, 44) ventral, 45) dorsal view. ♂ sternite 8: 46) *S. cameroni*, Turkey, Izmir. 47) *S. cyprius* sp. n., holotype. Scale bars = 0.1 mm.



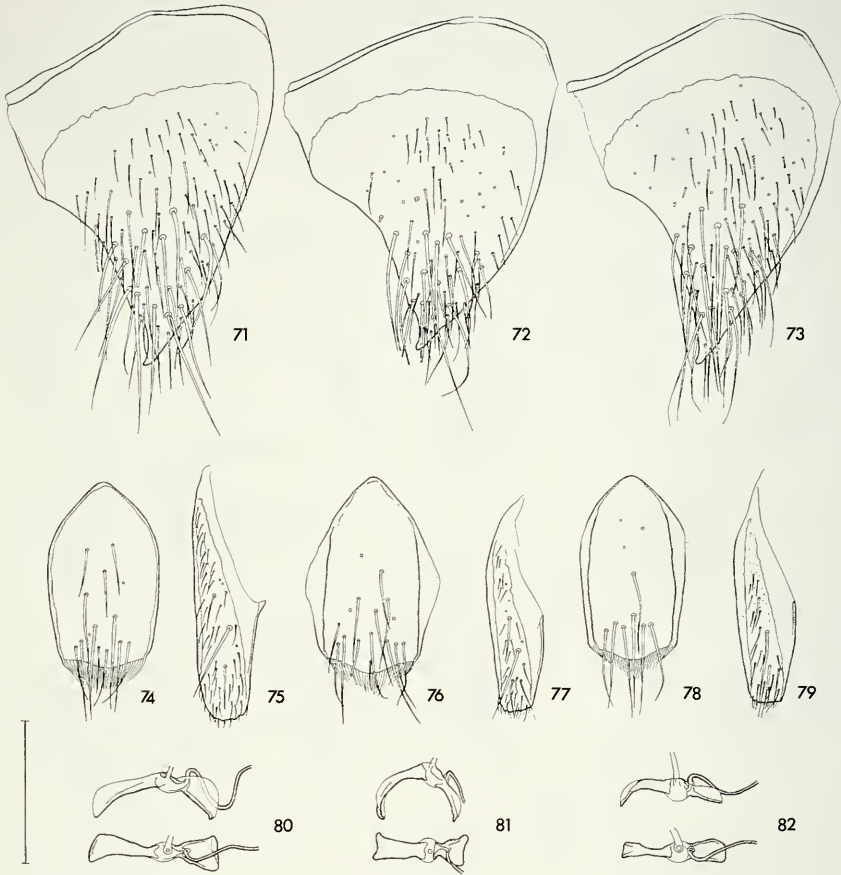
FIGS 48-58

♂ sternite 8: 48) *Scopaeus haemusensis* sp. n., paratype. 49) *S. chalcodactylus*, lectotype. 50) *S. pusillus*, Greece, Peloponnese. 51) *S. loebli* sp. n., holotype. 52) *S. minutus*, lectotype. 53) *S. subopacus*, holotype of *S. maderae* syn. n. 54) *S. portai*, lectotype. 55) *S. argonauta*, Caucasus. 56) *S. sulcicollis*, Bosnia. 57) *S. gladifer*, holotype. 58) *S. hispanicus*, Spain, Burgos. Scale bar = 0.1 mm. Pubescence completely illustrated in figs 55) and 56).



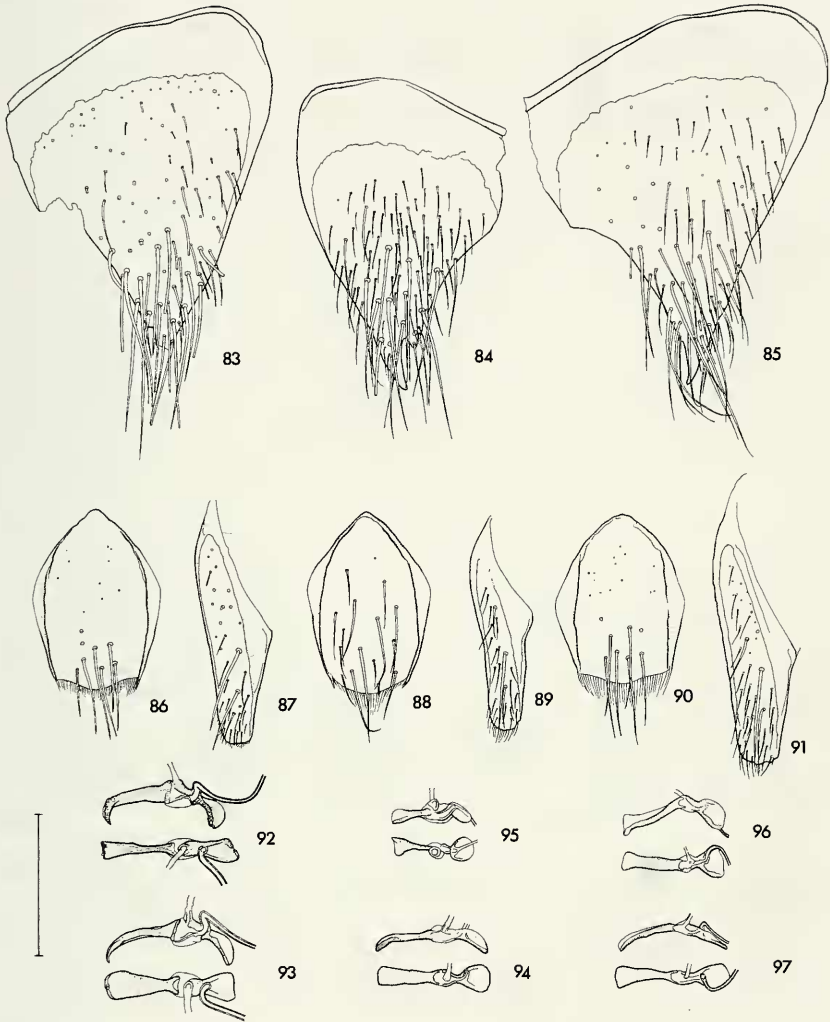
FIGS 59-70

Scopaeus signifer, paralectotype: 59) ♂ sternite 7, 60) ♂ sternite 8. *Scopaeus cameroni*, ♀ paratypes of *S. lemnicus* syn. n.: 61) laterotergite 9, 62) tergite 10, 63) valve, 64), 66) spermatheca. *Scopaeus cameroni*, ♀, Turkey, Izmir: 65) spermatheca. *Scopaeus cyprius* sp. n., ♀ paratype: 67) laterotergite 9, 68) tergite 10, 69) valve, 70) spermatheca. Figs 59-63: scale bar a), figs 64-70: scale bar b), scale bars = 0.1 mm.



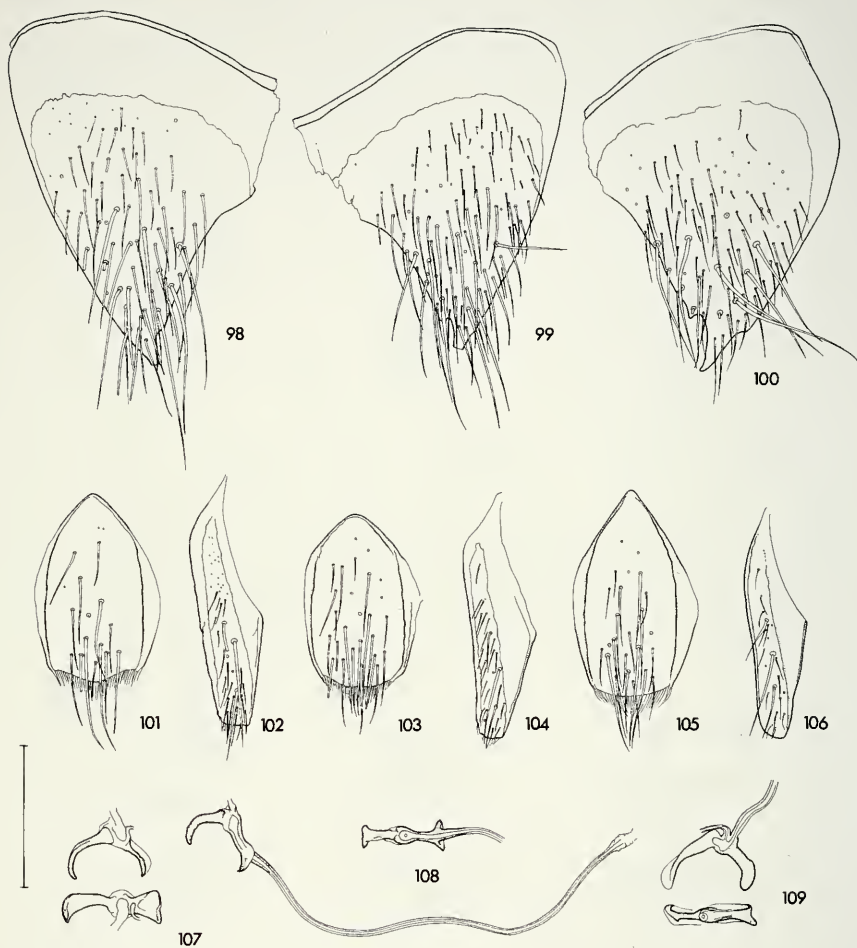
FIGS 71-82

Scopaeus haemusensis sp. n., ♀ paratype: 71) laterotergite 9, 74) tergite 10, 75) valve, 80) spermatheca. *Scopaeus chalcodactylus*, ♀, Caucasus: 72) laterotergite 9, 76) tergite 10, 77) valve, 81) spermatheca. *Scopaeus pusillus*, ♀, Austria: 73) laterotergite 9, 78) tergite 10, 79) valve; ♀, Greece, Peloponnese: 82) spermatheca. Scale bar = 0.1 mm.



FIGS 83-97

Scopaenus minutus, ♀ paralectotypes. Austria: 83) laterotergite 9, 86) tergite 10, 87) valve, 93), 94) spermatheca. *Scopaenus minutus* var. *intermedius*, ♀ paralectotype: 92) spermatheca. *Scopaenus portai*, ♀ paralectotype: 84) laterotergite 9, 88) tergite 10, 89) valve; ♀, France, Vaugmenier: 95) spermatheca. *Scopaenus argonauta*, ♀, Caucasus: 85) laterotergite 9, 90) tergite 10, 91) valve, 96) spermatheca. *Scopaenus sulcicollis*, ♀, Bosnia, Bjelasnica planina: 97) spermatheca. Scale bar = 0.1 mm.



FIGS 98-109

Scopaeus gladifer. ♀ paratype, Bulgaria: 98) laterotergite 9, 101) tergite 10, 102) valve, 107) spermatheca. *Scopaeus hispanicus*, ♀, Spain, Burgos: 99) laterotergite 9, 103) tergite 10, 104) valve, 108) spermatheca. *Scopaeus signifer*. ♀ paralectotype: 100) laterotergite 9, 105) tergite 10, 106) valve, 109) spermatheca. Scale bar = 0.1 mm.

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